

NEWS 1		Web Page for STN Seminar Schedule - N. America
NEWS 2	DEC 01	ChemPort single article sales feature unavailable
NEWS 3	JAN 06	The retention policy for unread STNmail messages will change in 2009 for STN-Columbus and STN-Tokyo
NEWS 4	JAN 07	WPIDS, WPINDEX, and WPIX enhanced Japanese Patent Classification Data
NEWS 5	FEB 02	Simultaneous left and right truncation (SLART) added for CERAB, COMPUAB, ELCOM, and SOLIDSTATE
NEWS 6	FEB 02	GENBANK enhanced with SET PLURALS and SET SPELLING
NEWS 7	FEB 06	Patent sequence location (PSL) data added to USGENE
NEWS 8	FEB 10	COMPENDEX reloaded and enhanced
NEWS 9	FEB 11	WTEXTILES reloaded and enhanced
NEWS 10	FEB 19	New patent-examiner citations in 300,000 CA/Cplus patent records provide insights into related prior art
NEWS 11	FEB 19	Increase the precision of your patent queries -- use terms from the IPC Thesaurus, Version 2009.01
NEWS 12	FEB 23	Several formats for image display and print options discontinued in USPATFULL and USPAT2
NEWS 13	FEB 23	MEDLINE now offers more precise author group fields and 2009 MeSH terms
NEWS 14	FEB 23	TOXCENTER updates mirror those of MEDLINE - more precise author group fields and 2009 MeSH terms
NEWS 15	FEB 23	Three million new patent records blast AEROSPACE into STN patent clusters
NEWS 16	FEB 25	USGENE enhanced with patent family and legal status display data from INPADOCDB
NEWS 17	MAR 06	INPADOCDB and INPAFAMDB enhanced with new display formats
NEWS 18	MAR 11	EPFULL backfile enhanced with additional full-text applications and grants
NEWS 19	MAR 11	ESBIOBASE reloaded and enhanced
NEWS 20	MAR 20	CAS databases on STN enhanced with new super role for nanomaterial substances
NEWS 21	MAR 23	CA/Cplus enhanced with more than 250,000 patent equivalents from China
NEWS 22	MAR 30	IMSPATENTS reloaded and enhanced
NEWS 23	APR 03	CAS coverage of exemplified prophetic substances enhanced
NEWS 24	APR 07	STN is raising the limits on saved answers

NEWS EXPRESS JUNE 27 08 CURRENT WINDOWS VERSION IS V8.3,
AND CURRENT DISCOVER FILE IS DATED 23 JUNE 2008.

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COST IN U.S. DOLLARS
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0.22 SESSION 0.22

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FILE CONTENT:1840 - 19 Apr 2009 VOL 150 ISS 17

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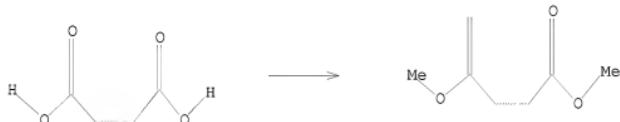
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=>
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L1 STRUCTURE UPLOADED

=> d 11
L1 HAS NO ANSWERS
L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> s 11
SAMPLE SEARCH INITIATED 13:02:08 FILE 'CASREACT'
SCREENING COMPLETE - 778 REACTIONS TO VERIFY FROM 84 DOCUMENTS
100.0% DONE 778 VERIFIED 105 HIT RXNS 19 DOCS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED VERIFICATIONS: 13888 TO 17232
PROJECTED ANSWERS: 119 TO 641

L2 19 SEA SSS SAM L1 (105 REACTIONS)

=> s 11 full
FULL SEARCH INITIATED 13:02:12 FILE 'CASREACT'
SCREENING COMPLETE - 9335 REACTIONS TO VERIFY FROM 1553 DOCUMENTS

100.0% DONE 9335 VERIFIED 636 HIT RXNS 247 DOCS
SEARCH TIME: 00.00.04

L3 247 SEA SSS FUL L1 (636 REACTIONS)

=> file caplus
COST IN U.S. DOLLARS SINCE FILE TOTAL
FULL ESTIMATED COST ENTRY SESSION
123.13 123.35

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FILE COVERS 1907 - 22 Apr 2009 VOL 150 ISS 17
FILE LAST UPDATED: 21 Apr 2009 (20090421/ED)

Caplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2008.

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 13
L4 247 L3

=> s 14 and methanol
247957 METHANOL
L5 52 L4 AND METHANOL

=> s 15 not py > 2004
6074028 PY > 2004
L6 31 L5 NOT PY > 2004

=> d occ 16 1-31

L6 ANSWER 1 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
FIELD COUNT
AN 1
IT 1

L6 ANSWER 2 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
FIELD COUNT
AN 1
IT 1

L6 ANSWER 3 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
FIELD COUNT
AN 1
IT 1

L6 ANSWER 4 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
FIELD COUNT
AN 1
AB 1

L6 ANSWER 5 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
FIELD COUNT
AN 1
ST 1
IT 8

L6 ANSWER 6 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
FIELD COUNT
AN 1
IT 1

L6 ANSWER 7 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
FIELD COUNT
AN 1
AB 1
IT 1

L6 ANSWER 8 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
FIELD COUNT
AN 1
IT 1

L6 ANSWER 9 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
FIELD COUNT
AN 1
TI 1
ST 1
IT 60

L6 ANSWER 10 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
FIELD COUNT
AN 1
AB 1
IT 1

L6 ANSWER 11 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
FIELD COUNT
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IT 1

L6 ANSWER 12 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
FIELD COUNT

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IT	1

L6 ANSWER 13 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
FIELD COUNT

AN	1
AB	1
IT	1

L6 ANSWER 14 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
FIELD COUNT

AN	1
AB	2

L6 ANSWER 15 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
FIELD COUNT

AN	1
AB	2
IT	1

L6 ANSWER 16 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
FIELD COUNT

AN	1
ST	1

L6 ANSWER 17 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
FIELD COUNT

AN	1
AB	1

L6 ANSWER 18 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
FIELD COUNT

AN	1
IT	1

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IT	1

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FIELD COUNT

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IT	1

L6 ANSWER 23 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
FIELD COUNT

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AB	1

L6 ANSWER 24 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

FIELD	COUNT
AN	1
IT	1

L6 ANSWER 25 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

FIELD	COUNT
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IT	2

L6 ANSWER 26 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

FIELD	COUNT
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IT	1

L6 ANSWER 27 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

FIELD	COUNT
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IT	2

L6 ANSWER 28 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

FIELD	COUNT
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IT	1

L6 ANSWER 29 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

FIELD	COUNT
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TI	1
ST	1
IT	8

L6 ANSWER 30 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

FIELD	COUNT
AN	1
IT	2

L6 ANSWER 31 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

FIELD	COUNT
AN	1
IT	1

=> d 16 ibib abs hit 1-31

L6 ANSWER 1 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:396547 CAPLUS
DOCUMENT NUMBER: 144:369644
TITLE: Catalytic synthesis of dimethyl fumarate with phosphotungstic acid
AUTHOR(S): Li, Yangshu; Yu, Bin
CORPORATE SOURCE: Science School, Nanjing University of Technology, Nanjing, 210009, Peop. Rep. China
SOURCE: Huagong Shikan (2004), 18(2), 57-58
PUBLISHER: Huagong Shikan Zazhishe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
OTHER SOURCE(S): CASREACT 144:369644
AB Phosphotungstic acid was used as an esterification catalyst for synthesizing di-Me fumarate (DMF), with maleic anhydride as the starting material and potassium bromate KBrO₃ as the isomerizing agent. This method has the advantages of requiring small amount of catalyst with high catalysis activity, resulting in shorter reaction time and high DMF yield

(typically over 90%). The purification procedure of DMF is simple.

AN 2005:396547 CAPLUS
DN 144:369644
IT 67-56-1, Methanol, reactions
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(catalytic synthesis of di-Me fumarate with phosphotungstic acid)

L6 ANSWER 2 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2004:626179 CAPLUS
DOCUMENT NUMBER: 141:259007
TITLE: Synthesis of chiral phosphoantigens and their activity in $\gamma\delta$ T cell stimulation
AUTHOR(S): Song, Yongcheng; Zhang, Yonghui; Wang, Hong; Raker, Amy; Sanders, John; Broderick, Erin; Clark, Allen; Morita, Craig; Oldfield, Eric
CORPORATE SOURCE: Department of Chemistry, University of Illinois at Urbana-Champaign, Urbana, IL, 61801, USA
SOURCE: Bioorganic & Medicinal Chemistry Letters (2004), 14(17), 4471-4477
CODEN: BMCL8; ISSN: 0960-894X
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 141:259007
AB $\gamma\delta$ T cells expressing Vy2V82 T cell receptors are activated by a broad range of phosphorus-containing small mols., termed phosphoantigens, and are of interest in the context of the chemotherapy of B cell malignancies. Here, we report the synthesis of four pairs of chiral phosphoantigens: the bromohydrins of isopentenyl diphosphate (PhosphotimTM), the epoxides of isopentenyl diphosphate (EIPP); and the corresponding bromohydrin and epoxide analogs of but-3-enyl diphosphate. The ability of each compound to stimulate human Vy2V82 T cells was determined by TNF- α release and cell proliferation. In these assays, the (R)-bromohydrin diphosphates, were, on average, about twice as active as the (S)-bromohydrin diphosphates. In contrast, the (S)-form of EIPP was about twice as active as (R)-EIPP. The activities of the epoxy but-3-enyl diphosphates were both very low. These results suggest that chiral phosphoantigens, as opposed to racemic mixts., may have utility in immunotherapy.

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AN 2004:626179 CAPLUS
DN 141:259007
IT 67-56-1, Methanol, reactions 124-63-0, Methanesulfonyl chloride 2857-97-8 6236-09-5 6236-10-8 64028-90-6 69739-34-0 76282-45-6 76282-49-0 432544-59-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of chiral phosphoantigens and their activity in $\gamma\delta$ T cell stimulation)

L6 ANSWER 3 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2004:557260 CAPLUS
DOCUMENT NUMBER: 142:176440
TITLE: Recovering of dibasic acid ester from waste alkali liquor of caprolactam preparation
INVENTOR(S): Zhou, Xianjun; Wang, Keshun; Wu, Chonghe; Liu, Yaozhong; Jiang, Ping
PATENT ASSIGNEE(S): Zhongxinghua Industrial Co., Ltd., Peop. Rep. China
SOURCE: Faming Zhanli Shenqing Gongkai Shuomingshu, 19 pp.
CODEN: CNXKEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1401624	A	20030312	CN 2001-124260	20010820
CN 1172898	C	20041027		
PRIORITY APPLN. INFO.:			CN 2001-124260	20010820
OTHER SOURCE(S):	CASREACT 142:176440			
AB	The recovering method comprises: (1) neutralizing the waste alkali liquor of caprolactam preparation to sep. aqueous phase and organic phase and oxidizing the organic substance in the organic phase with an oxidant selected from HNO ₃ , H ₂ O ₂ , HClO ₄ , or KMnO ₄ , (2) transferring the reaction product of the dibasic acid into a two-segments concentration unit to recover monobasic acid and HNO ₃ in the first segment and decompose the residual HNO ₃ and nitro compound in the second segment to obtain crude C4-6 dibasic acid, (3) esterifying with Cl-4 alc. in the presence of catalyst, such as H ₂ SO ₄ , H ₃ PO ₄ , HNO ₃ , sulfonic acid, and cationic exchange resin, and distilling			
AN	2004:557260 CAPLUS			
DN	142:176440			
IT	67-56-1, Methanol, reactions 7664-38-2, Phosphoric acid, reactions 7697-37-2, Nitric acid, reactions 7722-64-7, Potassium permanganate 7722-84-1, Hydrogen peroxide, reactions RL: RCT (Reactant); RACT (Reactant or reagent) (recovering of dibasic acid ester from waste alkali liquor of caprolactam preparation)			
L6	ANSWER 4 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN			
ACCESSION NUMBER:	2004:163065 CAPLUS			
DOCUMENT NUMBER:	141:54226			
TITLE:	Synthesis of 2-(5-methyl-2-phenyl-4-oxazolyl)ethanol			
AUTHOR(S):	Wang, Ya-Lou; Liu, Xing; Li, Jiang-Chuan			
CORPORATE SOURCE:	Department of Medicinal Chemistry, China Pharmaceutical University, Nanjing, 210009, Peop. Rep. China			
SOURCE:	Yingyong Huaxue (2004), 21(1), 104-106			
PUBLISHER:	CODEN: YIHUED; ISSN: 1000-0518			
DOCUMENT TYPE:	Kexue Chubanshe			
LANGUAGE:	Journal Chinese			
OTHER SOURCE(S):	CASREACT 141:54226			
AB	2-(5-Methyl-2-phenyl-4-oxazolyl)ethanol (I) was synthesized from L-aspartic acid via 5-step reactions; esterification, N-benzoylation, Dakin-West reaction, cyclization and reduction using LiAlH ₄ in about 31.2% overall yield. Reacting L-aspartic acid with methanol in 0 °C gave 72.6% L-aspartic acid β-Me ester hydrochloride, which was benzoylated to give 82.0% N-benzoyl-L-aspartic acid β-Me ester (II). Dakin-West reaction of II gave 74.4% Me 3-benzamido-4-oxovalerate, which was cyclized in toluene by POC13 to give 81.8% Me 2-(5-methyl-2-phenyl-4-oxazolyl)acetate, the latter can easily convert to I by treatment with ether solution of LiAlH ₄ in yield of 86%. All the compds. were characterized by ¹ H NMR, IR and elemental anal.			
AN	2004:163065 CAPLUS			
DN	141:54226			
AB	2-(5-Methyl-2-phenyl-4-oxazolyl)ethanol (I) was synthesized from L-aspartic acid via 5-step reactions; esterification, N-benzoylation, Dakin-West reaction, cyclization and reduction using LiAlH ₄ in about 31.2% overall yield. Reacting L-aspartic acid with methanol in 0 °C gave 72.6% L-aspartic acid β-Me ester hydrochloride, which was benzoylated to give 82.0% N-benzoyl-L-aspartic acid β-Me ester			

(II). Dakin-West reaction of II gave 74.4% Me 3-benzamido-4-oxovalerate, which was cyclized in toluene by POC13 to give 81.8% Me 2-(5-methyl-2-phenyl-4-oxazolyl)acetate, the latter can easily convert to I by treatment with ether solution of LiAlH4 in yield of 86%. All the compds. were characterized by 1H NMR, IR and elemental anal.

L6 ANSWER 5 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2003:954590 CAPLUS
DOCUMENT NUMBER: 141:191003
TITLE: Reactions of 2H-3,1-benzoxazine -2,4(1H)-dione
AUTHOR(S): Milea, M.; Csunderlik, C.; Fota, Daniela
CORPORATE SOURCE: Department of Organic Chemistry, The University
"POLITEHNICA" Timisoara, Timisoara, RO-1900, Rom.
SOURCE: Buletinul Stiintific al Universitatii "Politehnica"
din Timisoara Romania, Seria Chimie si Mediului
(2000), 45(1), 163-167
CODEN: BSIMPG; ISSN: 1224-6018
PUBLISHER: Universitatii "Politehnica" din Timisoara
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 141:191003
AB Reactions of isatoic anhydride (2H-3,1-benzoxazine -2,4(1H)-dione) with alcs. and phenols, both in the presence or absence of basic catalysts, have been studied, conditions have been established and the products characterized by physico-chemical methods. Also the reactions of isatoic anhydride with Me esters of α -amino acids were studied among the reactions of isatoic anhydride with nitrogen nucleophiles.
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
AN 2003:954590 CAPLUS
DN 141:191003
ST isatoic anhydride benzoxazinedione reaction alc phenol; amino acid ester nucleophile prepn esterification methanol benzoxazinedione reaction
IT Amino acids, preparation
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(esters; prepn of Me esters of amino acids by esterification of amino acids with methanol)
IT Esterification
(prep of Me esters of amino acids by esterification of amino acids with methanol)
IT 67-56-1, Methanol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(prep of Me esters of amino acids by esterification of amino acids with methanol)
IT 5680-79-5P 6384-18-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prep of Me esters of amino acids by esterification of amino acids with methanol)
IT 2491-18-1P 7517-19-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prep of Me esters of amino acids by esterification of amino acids with methanol)

L6 ANSWER 6 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2003:363327 CAPLUS
DOCUMENT NUMBER: 139:230335
TITLE: Base-induced alcoholysis of N-arylmaleimides: facile
in situ oxa-michael addition to alkyl maleanilates:
Two-step one-pot rapid access to alkoxy-succinic acids
AUTHOR(S): Mhaske, Santosh B.; Argade, Narshinha P.

CORPORATE SOURCE: Division of Organic Chemistry (Synthesis), National Chemical Laboratory, Pune, 411 008, India
Synthesis (2003), (6), 863-870
CODEN: SYNTBF; ISSN: 0039-7881

SOURCE: Georg Thieme Verlag
PUBLISHER: Journal
DOCUMENT TYPE: English
LANGUAGE: OTHER SOURCE(S): CASREACT 139:230335

AB A simple, efficient and general two-step, one-pot approach to alkoxysuccinic acids is described. The potassium carbonate-catalyzed reactions of alcs. with 1-(4-methylphenyl)-1H-pyrrole-2,5-dione followed by an acid-induced hydrolysis of intermediate products furnished alkoxysuccinic acids in 90-98% yields. All the intermediates from the reaction of 1-(4-Methylphenyl)-1H-Pyrrole-2,5-dione were characterized, proving that the in situ formed alkyl maleanilates are the actual Michael acceptors.

REFERENCE COUNT: 61 THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AN 2003:363327 CAPLUS
DN 139:230335
IT 64-17-5, Ethanol, reactions 67-56-1, Methanol, reactions 67-63-0, 2-Propanol, reactions 71-41-0, 1-Pentanol, reactions 100-51-6, Benzenemethanol, reactions 107-21-1, 1,2-Ethanediol, reactions 108-31-6, Maleic anhydride, reactions 111-87-5, 1-Octanol, reactions 112-30-1, 1-Decanol 112-53-8, 1-Dodecanol 3886-69-9,
(aR)- α -Methylbenzenemethanamine 24870-11-9,
(2Z)-4-(4-Methylphenyl)amino-4-oxo-2-butenoic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(two-step one-pot preparation of (alkoxy)succinic acids via base-induced alcoholysis of N-arylmaleimides and facile in situ oxa-Michael addition to alkyl maleanilates)

L6 ANSWER 7 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2003:44804 CAPLUS
DOCUMENT NUMBER: 138:337689
TITLE: Synthesis of dimethyl fumarate by heterogeneous supported heteropoly acid
AUTHOR(S): Xu, Wenyuan; Peng, Daofeng; Xiong, Guoxuan; Zhu, Xiaping
CORPORATE SOURCE: Department of Applied Chemistry, East China Institute of Technology, Fuzhou, 344000, Peop. Rep. China
SOURCE: Huaxue Shiji (2002), 24(6), 367-368
PUBLISHER: Huagongbu Huaxue Shiji Xinsizhan
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
OTHER SOURCE(S): CASREACT 138:337689
AB Synthesis of di-Me fumarate by esterification reaction of fumaric acid with methanol catalyzed by heterogeneous supported heteropoly acid PW12/C was studied in this paper. A careful study of the effects on the esterification reaction was done. Under these conditions, the yield of ester was about 91.6%.
AN 2003:44804 CAPLUS
DN 138:337689
AB Synthesis of di-Me fumarate by esterification reaction of fumaric acid with methanol catalyzed by heterogeneous supported heteropoly acid PW12/C was studied in this paper. A careful study of the effects on the esterification reaction was done. Under these conditions, the yield of ester was about 91.6%.
IT 67-56-1, Methanol, reactions 110-17-8, Fumaric acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of di-Me fumarate by heterogeneous supported heteropoly acid)

L6 ANSWER 8 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2002:952405 CAPLUS
DOCUMENT NUMBER: 139:6591
TITLE: Catalytic synthesis of dimethyl fumarate using solid-supported superacid catalyst
AUTHOR(S): Zhao, Lifang; He, Zhusheng; Ma, Yuying
CORPORATE SOURCE: Dept. Chem.+Chem. Eng., Baoji Coll. Arts + Sci., Baoji, 721007, Peop. Rep. China
SOURCE: Baoji Wenli Xueyuan Xuebao, Ziran Kexueban (2002), 22(2), 138-140
CODEN: BWZKFL
PUBLISHER: Baoji Wenli Xueyuan Xuebao Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
OTHER SOURCE(S): CASREACT 139:6591
AB The preparation of supported catalyst, TiO₂/La³⁺/SO₄²⁻ supported on mol. sieves, and its catalytic activity to esterification of fumarate were studied. The catalyst had fine catalytic activity. The optimum conditions of the esterification were decided by orthogonal expts. as follows: activation temperature of the catalyst was 500°, the amount of catalyst was 15% (based on the mass of fumaric acid), the mole ratio of alc. to acid was 6:1 and the reaction time was 5 h. Under the optimum reaction conditions, the yield of di-Me fumarate was up to 92.3%.
AN 2002:952405 CAPLUS
DN 139:6591
IT 67-56-1, Methanol, reactions 110-17-8, Fumaric acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of di-Me fumarate using solid-supported superacid catalyst)

L6 ANSWER 9 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2002:903288 CAPLUS
DOCUMENT NUMBER: 138:271016
TITLE: A simple, convenient and expeditious route to methyl esters of carboxylic acids by thionyl chloride-methanol
AUTHOR(S): Chatterjee, Tapasi; Chattopadhyay, Subhagata
CORPORATE SOURCE: Department of Chemistry, Jadavpur University, Kolkata, 700 032, India
SOURCE: Oriental Journal of Chemistry (2002), 18(2), 187-190
CODEN: OJCHEG; ISSN: 0970-020X
PUBLISHER: Oriental Scientific Publishing Co.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 138:271016
AB A simple, convenient and expeditious preparation of 40-90% Me esters of carboxylic acids by thionyl chloride and MeOH was described. Among the 29 esters prepared were 90% 2-IC₆H₄CO₂Me, 87% 4-MeOC₆H₄CO₂Me and 86% Bz(CH₂)₂CO₂Me.
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
AN 2002:903288 CAPLUS
DN 138:271016
TI A simple, convenient and expeditious route to methyl esters of carboxylic acids by thionyl chloride-methanol
ST thionyl chloride methanol esterification carboxylic acid
IT Esterification
(preparation of Me esters of carboxylic acids by thionyl chloride-methanol)
IT Esters, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of Me esters of carboxylic acids by thionyl chloride-methanol)

IT 62-23-7, 4-Nitrobenzoic acid 65-85-0, Benzoic acid, reactions 69-72-7,
2-Hydroxybenzoic acid, reactions 79-11-8, Chloroacetic acid, reactions
87-69-4, L-Tartaric acid, reactions 88-67-5, 2-Iodobenzoic acid
88-99-3, Phthalic acid, reactions 99-06-9, 3-Hydroxybenzoic acid,
reactions 99-34-3, 3,5-Dinitrobenzoic acid 99-96-7, 4-Hydroxybenzoic
acid, reactions 100-09-4, 4-Methoxybenzoic acid 103-82-2, Phenylacetic
acid, reactions 110-15-6, Succinic acid, reactions 110-16-7, Maleic
acid, reactions 110-17-8, Fumaric acid, reactions 110-44-1,
2,4-Hexadienoic acid 117-34-0, Diphenylacetic acid 118-91-2,
2-Chlorobenzoic acid 121-92-6, 3-Nitrobenzoic acid 140-10-3,
trans-Cinnamic acid, reactions 141-82-2, Malonic acid, reactions
144-62-7, Oxalic acid, reactions 527-72-0, 2-Thiophenecarboxylic acid
552-16-9, 2-Nitrobenzoic acid 2051-95-8, 3-Phenylpropionic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of Me esters of carboxylic acids by thionyl chloride-methanol)

IT 64-17-5, Ethanol, reactions 67-56-1, Methanol, reactions
67-63-0, Isopropanol, reactions 7719-09-7, Thionyl chloride
RL: RGT (Reagent); RACT (Reactant or reagent)
(preparation of Me esters of carboxylic acids by thionyl chloride-methanol)

IT 93-58-3P, Methyl benzoate 93-89-0P, Ethyl benzoate 96-34-4P, Methyl
chloroacetate 99-76-3P, Methyl 4-hydroxybenzoate 99-77-4P, Ethyl
2-nitrobenzoate 101-41-7P, Methyl phenylacetate 106-65-0P, Dimethyl
succinate 108-59-8P, Dimethyl malonate 119-36-8P, Methyl
2-hydroxybenzoate 121-98-2P, Methyl 4-methoxybenzoate 131-11-3P,
Dimethyl phthalate 553-90-2P, Dimethyl oxalate 606-27-9P, Methyl
2-nitrobenzoate 608-68-4P 610-96-8P, Methyl 2-chlorobenzoate
610-97-9P, Methyl 2-iodobenzoate 618-95-1P, Methyl 3-nitrobenzoate
619-50-1P, Methyl 4-nitrobenzoate 624-49-7P, Dimethyl fumarate
689-89-4P 939-48-0P, Isopropyl benzoate 1754-62-7P 2702-58-1P,
Methyl 3,5-dinitrobenzoate 3469-00-9P, Methyl diphenylacetate
5380-42-7P, Methyl 2-thiophenecarboxylate 13756-40-6P, Isopropyl
2-nitrobenzoate 19438-10-9P, Methyl 3-hydroxybenzoate 25333-24-8P,
Methyl 3-benzoylpropionate
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of Me esters of carboxylic acids by thionyl chloride-methanol)

L6 ANSWER 10 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2002:81290 CAPLUS
DOCUMENT NUMBER: 137:352688
TITLE: Catalytic reaction-distillation synthesis of dimethyl
fumarate by fixed-carried heteropoly acid
AUTHOR(S): Ding, Bin; Guo, Xiangming
CORPORATE SOURCE: Jilin Institute of Chemical Technology, Jilin,
1320022, Peop. Rep. China
SOURCE: Dongbei Shida Xuebao, Ziran Kexueban (2001), 33(4),
61-65
CODEN: DSZKEE; ISSN: 1000-1832
PUBLISHER: Dongbei Shifan Daxue Xueshu Qikanshe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
OTHER SOURCE(S): CASREACT 137:352688
AB A new synthesis technol. of di-Me fumarate was presented. Fumarate,
methanol, and self-made fixed-carried heteropoly acid as catalyst
were used. The reaction-distillation conditions were ratio of alc. and acid
about 7:1; esterification temperature about 67-78°; and reaction time
≤6 h. The yield of product was up to 92%.
AN 2002:81290 CAPLUS
DN 137:352688
AB A new synthesis technol. of di-Me fumarate was presented. Fumarate,
methanol, and self-made fixed-carried heteropoly acid as catalyst

were used. The reaction-distillation conditions were ratio of alc. and acid about 7:1; esterification temperature about 67–78°; and reaction time ≤6 h. The yield of product was up to 92%.

IT 67-56-1, Methanol, reactions 110-17-8, Fumaric acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(catalytic reaction-distillation synthesis of di-Me fumarate by fixed-carried heteropoly acid)

L6 ANSWER 11 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2001:537078 CAPLUS
DOCUMENT NUMBER: 135:256190
TITLE: Lipase-catalyzed synthesis of RGD diamide in aqueous water-miscible organic solvents
AUTHOR(S): Zhang, L.-Q.; Zhang, Y.-D.; Xu, L.; Li, X.-L.; Yang, X.-c.; Xu, G.-L.; Wu, X.-X.; Gao, H.-Y.; Du, W.-B.; Zhang, X.-T.; Zhang, X.-Z.
CORPORATE SOURCE: Key Laboratory of Molecular Enzymology and Engineering, Jilin University, Changchun, 130023, Peop. Rep. China
SOURCE: Enzyme and Microbial Technology (2001), 29(2-3), 129-135
CODEN: EMTED2; ISSN: 0141-0229
PUBLISHER: Elsevier Science Ireland Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 135:256190
AB 1RGD tripeptide as the cellular adhesion factor was synthesized by a combination of chemical and enzymic methods in this study. First of all, Gly-Asp diamide was synthesized by a novel chemical method in three steps including preparation of L-aspartic acid di-Me ester, chloroacetylation of L-aspartic acid di-Me ester and ammonolysis of chloroacetyl L-aspartic acid di-Me ester. Secondly, Porcine Pancreas Lipase (PPL) was used to catalyze the synthesis of Benzyl-Arg-Gly-Asp diamide in water-organic cosolvents systems. The reaction condition was optimized by examining the main factors affecting the yield of the tripeptide. The optimal reaction condition was set up as pH7.7, 15°C in 50% DMF for 8 h with the maximum yield of 76.4%. It was also found that 50% DMSO was another alternative with the tripeptide yield of 71.7%.
REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AN 2001:537078 CAPLUS
DN 135:256190
IT 56-84-8, L-Aspartic acid, reactions 67-56-1, Methanol, reactions 79-04-9, Chloroacetyl chloride 1336-21-6, Ammonium hydroxide 7664-41-7, Ammonia, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(lipase-catalyzed synthesis of RGD diamide in aqueous water-miscible organic solvents)

L6 ANSWER 12 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2001:535025 CAPLUS
DOCUMENT NUMBER: 136:294520
TITLE: Synthesis of dimethyl fumarate catalyzed by SO42-/TiO2/La3+ rare earth solid superacid
AUTHOR(S): Zhou, Jianwei
CORPORATE SOURCE: Department of Chemical Engineering, Pingyuan University, Xinzhang, 453003, Peop. Rep. China
SOURCE: Henan Huagong (2001), (5), 12-14
CODEN: HEHUF3; ISSN: 1003-3467
PUBLISHER: Henan Sheng Shiyou Huaxue Gongye Keji Qingbao
Zhongxinzhuan
DOCUMENT TYPE: Journal

LANGUAGE: Chinese
OTHER SOURCE(S): CASREACT 136:294520

AB Di-Me fumarate was synthesized from fumaric acid and methanol with SO₄²⁻/TiO₂/La³⁺ rare earth solid superacid as catalyst in dichloromethane solvent. Optimum synthetic conditions were determined: molar ratio of fumaric acid to methanol 6:1, dosage of catalyst 1.0 g/0.1 mol fumaric acid, time 4 h and solvent 25 mL. Yield of product reached above 94%.

AN 2001:535025 CAPLUS
DN 136:294520

AB Di-Me fumarate was synthesized from fumaric acid and methanol with SO₄²⁻/TiO₂/La³⁺ rare earth solid superacid as catalyst in dichloromethane solvent. Optimum synthetic conditions were determined: molar ratio of fumaric acid to methanol 6:1, dosage of catalyst 1.0 g/0.1 mol fumaric acid, time 4 h and solvent 25 mL. Yield of product reached above 94%.

ST dimethyl fumarate synthesis fumaric acid methanol solid superacid catalysis

IT 67-56-1, Methanol, reactions 110-17-8, Fumaric acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of di-Me fumarate catalyzed by SO₄²⁻/TiO₂/La³⁺ rare earth solid superacid)

L6 ANSWER 13 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2001:461290 CAPLUS
DOCUMENT NUMBER: 136:279092

TITLE: Synthesis of dimethyl fumarate from maleic acid
AUTHOR(S): Cao, Kelin
CORPORATE SOURCE: Shanxi Taiming Chemical Engineering Co., Ltd., Taigu, 030800, Peop. Rep. China
SOURCE: Huagong Jinzhan (2001), 20(4), 33-34, 39
CODEN: HUJIEK; ISSN: 1000-6613
PUBLISHER: Huaxue Gongye Chubanshe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
OTHER SOURCE(S): CASREACT 136:279092

AB Title compound was prepared from maleic acid, isomerized fumaric acid in the presence of ammonium persulfateto as catalyst, further esterification with methanol in the presence of phosphotungstic acid as catalyst, giving product with yield over 94%. The effects of catalysts and catalyst amount on the reactions were studied.

AN 2001:461290 CAPLUS
DN 136:279092

AB Title compound was prepared from maleic acid, isomerized fumaric acid in the presence of ammonium persulfateto as catalyst, further esterification with methanol in the presence of phosphotungstic acid as catalyst, giving product with yield over 94%. The effects of catalysts and catalyst amount on the reactions were studied.

IT 67-56-1, Methanol, reactions 110-16-7, Maleic acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of di-Me fumarate from maleic acid)

L6 ANSWER 14 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2001:443163 CAPLUS
DOCUMENT NUMBER: 136:263409

TITLE: Synthesis of new chiral lipophilic macrocyclic oxo polyamines
AUTHOR(S): Yan, Qianshun; You, Jinsong; Xiang, Qingxiang; Yu, Xiaoli; Xie, Rugang
CORPORATE SOURCE: Department of Chemistry, Sichuan University, Chengdu, 610064, Peop. Rep. China
SOURCE: Huaxue Yanjiu Yu Yingyong (2001), 13(2), 189-191
CODEN: HYYIFM; ISSN: 1004-1656

PUBLISHER: Huaxue Yanjiu Yu Yingyong Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
OTHER SOURCE(S): CASREACT 136:263409

AB New chiral lipophilic macrocyclic oxo polyamines were synthesized from L-glutamic acid or L-aspartic acid by esterifying with methanol, acylating with dodecanoyl chloride in chloroform in the presence of K₂CO₃ to obtain di-Me N-dodecanoyl-L-glutamate or L-aspartate, and transacylating with diethylenetriamine or triethylenetetraamine in methanol under refluxing. Their structures were characterized by MS, ¹H NMR, and elemental anal.

AN 2001:443163 CAPLUS
DN 136:263409

AB New chiral lipophilic macrocyclic oxo polyamines were synthesized from L-glutamic acid or L-aspartic acid by esterifying with methanol, acylating with dodecanoyl chloride in chloroform in the presence of K₂CO₃ to obtain di-Me N-dodecanoyl-L-glutamate or L-aspartate, and transacylating with diethylenetriamine or triethylenetetraamine in methanol under refluxing. Their structures were characterized by MS, ¹H NMR, and elemental anal.

L6 ANSWER 15 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2000:832322 CAPLUS
DOCUMENT NUMBER: 134:310893
TITLE: Synthesis of dimethyl fumarate catalyzed by composite solid superacid SO₄₂₋/TiO₂-Al203
AUTHOR(S): Cheng, Yonghao
CORPORATE SOURCE: Department of Chemistry, Hebei Normal University, Shijiazhuang, 050016, Peop. Rep. China
SOURCE: Riyong Huaxue Gongye (2000), 30(5), 12-13
CODEN: RHGQE8; ISSN: 1001-1803
PUBLISHER: Qinggongye bu Kexue Jishu Qingbao Yanjiuso
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
OTHER SOURCE(S): CASREACT 134:310893

AB Di-Me fumarate was synthesized from fumaric acid and methanol with composite solid superacid SO₄₂₋/TiO₂- Al203 as catalyst. Optimum synthetic conditions were determined: methanol:fumaric acid 6:1, time 4 h, and dosage of catalyst 3 g. Yield of product reached 91.4%.

AN 2000:832322 CAPLUS
DN 134:310893

AB Di-Me fumarate was synthesized from fumaric acid and methanol with composite solid superacid SO₄₂₋/TiO₂- Al203 as catalyst. Optimum synthetic conditions were determined: methanol:fumaric acid 6:1, time 4 h, and dosage of catalyst 3 g. Yield of product reached 91.4%.

IT 67-56-1, Methanol, reactions 110-17-8, Fumaric acid, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of di-Me fumarate catalyzed by composite solid superacid SO₄₂₋/TiO₂-Al203)

L6 ANSWER 16 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2000:586307 CAPLUS
DOCUMENT NUMBER: 133:296252
TITLE: A simple method for the preparation of monomethyl esters of dicarboxylic acids by selective esterification of the nonconjugated carboxyl group in the presence of an aromatic or conjugated carboxyl group

AUTHOR(S): Ram, Ram N.; Meher, Nabin Kumar
CORPORATE SOURCE: Department of Chemistry, Indian Institute of Technology, New Delhi, 110016, India
SOURCE: Journal of Chemical Research, Synopses (2000), (6), 282-283

CODEN: JRPSDC; ISSN: 0308-2342
PUBLISHER: Science Reviews Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 133:296252
AB Various dicarboxylic acids were converted selectively into monomethyl esters in which the nonconjugated carboxyl group is selectively esterified in the presence of an aromatic or conjugated carboxyl group at room temperature (.apprx.25-27°) in MeOH using a catalytic amount of SOC12.
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
AN 2000:586307 CAPLUS
DN 133:296252
ST dicarboxylate methanol selective esterification; ester dicarboxylic selective prepn

L6 ANSWER 17 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1998:732350 CAPLUS
DOCUMENT NUMBER: 130:66049
TITLE: A selective method for the preparation of aliphatic methyl esters in the presence of aromatic carboxylic acids
AUTHOR(S): Rodriguez, A.; Nomen, M.; Spur, B. W.
CORPORATE SOURCE: Department of Cell Biology, Univ. of Medicine and Dentistry of New Jersey, Stratford, NJ, 08084, USA
SOURCE: Tetrahedron Letters (1998), 39(47), 8563-8566
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 130:66049
AB 2,2-Dimethoxypropane, methanol and a catalytic amount of HCl selectively esterify aliphatic carboxylic acids in the presence of aromatic carboxylic acids at room temperature and in high yields.
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
AN 1998:732350 CAPLUS
DN 130:66049
AB 2,2-Dimethoxypropane, methanol and a catalytic amount of HCl selectively esterify aliphatic carboxylic acids in the presence of aromatic carboxylic acids at room temperature and in high yields.

L6 ANSWER 18 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1994:680006 CAPLUS
DOCUMENT NUMBER: 121:280006
ORIGINAL REFERENCE NO.: 121:51115a,51118a
TITLE: A convenient and mild procedure for the preparation of hydroxy esters from lactones and hydroxy acids
AUTHOR(S): Anand, R. C.; Selvapalam, N.
CORPORATE SOURCE: Dep. Chem., Indian Inst. Technol., New Delhi, 110016, India
SOURCE: Synthetic Communications (1994), 24(19), 2743-7
CODEN: SYNCV; ISSN: 0039-7911
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 121:280006
AB An alc. solution of lactones and hydroxy acids stored on Amberlyst-15 results in the formation of corresponding hydroxy esters in high yields.
AN 1994:680006 CAPLUS
DN 121:280006
OREF 121:51115a,51118a
IT 64-17-5, Ethanol, reactions 67-56-1, Methanol, reactions 79-14-1, reactions 87-41-2, 1(3H)-Isobenzofuranone 87-69-4, reactions

96-48-0 119-84-6 502-44-3, 2-Oxepanone 542-28-9 553-86-6,
 2(3H)-Benzofuranone 828-01-3 4026-18-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (mild procedure for the preparation of hydroxy esters from lactones and
 hydroxy acids)

L6 ANSWER 19 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1994:269626 CAPLUS
 DOCUMENT NUMBER: 120:269626
 ORIGINAL REFERENCE NO.: 120:47747a,47750a
 TITLE: Catalytic synthesis of dimethyl fumarate with ferric chloride
 AUTHOR(S): Yu, Shanxin; Lei, Huanwen
 CORPORATE SOURCE: Dep. Chem., Hunan Norm. Univ., Changsha, 410081, Peop. Rep. China
 SOURCE: Huaxue Shiji (1993), 15(6), 374, 376
 CODEN: HUSHDR; ISSN: 0258-3283
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 OTHER SOURCE(S): CASREACT 120:269626
 AB Ferric chloride ($\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$) can be used as a catalyst for the esterification reaction of fumaric acid instead of sulfuric acid. The conditions in synthesis of di-Me fumarate catalyzed with $\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$ are described. The advantages of this method are: simple procedure, mild reaction conditions, non-corrosive, less pollution and purer product.
 AN 1994:269626 CAPLUS
 DN 120:269626
 OREF 120:47747a,47750a
 IT Esterification catalysts
 (ferric chloride, for fumaric acid with methanol)

L6 ANSWER 20 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1993:626419 CAPLUS
 DOCUMENT NUMBER: 119:226419
 ORIGINAL REFERENCE NO.: 119:40439a,40442a
 TITLE: Method for preparing amino acid esters involving (continuous) addition and distillation of alcohols
 INVENTOR(S): Takemoto, Tadashi; Takeda, Hideo
 PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan
 SOURCE: Eur. Pat. Appl., 4 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 544205	A2	19930602	EP 1992-119898	19921123
EP 544205	A3	19930728		
EP 544205	B1	19950906		
R: BE, CH, DE, FR, GB, IT, LI, NL				
JP 05148199	A	19930615	JP 1991-314585	19911128
CA 2084012	A1	19930529	CA 1992-2084012	19921127
US 5424476	A	19950613	US 1994-194635	19940210
PRIORITY APPLN. INFO.:			JP 1991-314585	A 19911128
			US 1992-982123	B1 19921125

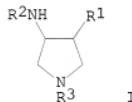
OTHER SOURCE(S): CASREACT 119:226419
 AB Amino acid esters were prepared by heating a mixture of an amino acid, an alc., and H_2SO_4 with simultaneous addition of liquid or gaseous alc. to the reaction mixture and distillation of the same. Thus, H-Phe-OH in MeOH containing cat.
 H_2SO_4 was kept at 85° for 4 h with simultaneous addition and distillation of

MeOH to give 98.6% H-Phe-OMe. Simple reflux of the above reactants gave a yield of only 83-2% product.

AN 1993:626419 CAPLUS
 DN 119:226419
 OREF 119:40439a,40442a
 IT 56-41-7P, L-Alanine, reactions 56-84-8P, H-Asp-OH, reactions 63-91-2P,
 L-Phenylalanine, reactions 72-18-4P, L-Valine, reactions
 RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
 (esterification of, with methanol, continuous distillation and
 addition of alc. in)

L6 ANSWER 21 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1993:580649 CAPLUS
 DOCUMENT NUMBER: 119:180649
 ORIGINAL REFERENCE NO.: 119:32287a,32290a
 TITLE: Preparation of pyrrolidine derivatives from amino acids.
 INVENTOR(S): Hirabayashi, Satoshi; Ike, Kazuo; Zanka, Atuhiko;
 Kawakami, Takeshi; Ichihara, Masaharu
 PATENT ASSIGNEE(S): Fujisawa Pharmaceutical Co., Ltd., Japan
 SOURCE: PCT Int. Appl., 20 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9220652	A1	19921126	WO 1992-JP648	19920520
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE				
JP 04346971	A	19921202	JP 1991-219431	19910521
PRIORITY APPLN. INFO.:			JP 1991-219431	A 19910521
OTHER SOURCE(S):	CASREACT 119:180649; MARPAT 119:180649			
GI				



AB Reaction of R2-NH-CH(CO2-R5)-CH2-CO2-R4 (R2, R4, R5 = protecting group) with R1-X [R1 = alkyl; X = leaving group] gives R2-NH-CH(CO2-R5)-CH(R1)-CO2-R4, whose reduction gives R2-NH-CH(CH2OH)-CH(R1)-CH2OH, whose condensation with H2N-R3 (R3 = protecting group) gives pyrrolidine derivs. I, which are optionally deprotected. Di-Me (S)-aspartate hydrochloride (preparation given) in CH2Cl2 was mixed with a saturated aqueous solution of NaHCO3, tert-di-Bu dicarbonate was added, and the resulting mixture was allowed to stand overnight to give di-Me (S)-N-tert-butoxycarbonylaspartate, which was treated with MeI in THF containing hexamethyldisilazane and BuLi at -40 to -30° for 2 h to give, after adjusting to pH 7-8 with 1N HCl, a 1:1 mixture of threo- and erythro-(2S)-N-(tert-butoxycarbonyl)-3-methylaspartic acid di-Me ester, which was reduced with NaBH4 in THF-MeOH at 35-50° for 4 h to give a diastereomeric mixture of (2S)-N-(tert-butoxycarbonylamino)-3-methyl-1,4-butanediol, whose dimesylate ester was heated with benzylamine at

30-50° for 3 days to give 74% a diastereomeric mixture of 1-benzyl-3-tert-butoxycarbonylamino-4-methylpyrrolidine.
 (3S,4S)-1-benzyl-3-tert-butoxycarbonylamino-4-methylpyrrolidine in MeOH-H₂O containing HCO₂NH₄ was hydrogenolyzed over Pd/C to give (3S,4S)-3-tert-butoxycarbonylamino-4-methylpyrrolidine, which in MeOH-EtOAc was treated with HCl in EtOAc at room temperature for 2 h and then at

35° for 2 h to give (3S,4S)-3-amino-4-methylpyrrolidine.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

AN 1993:580649 CAPLUS

DN 119:180649

OREF 119:32287a,32290a

IT 56-84-8, (S)-Aspartic acid, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
 (esterification of, with methanol)

L6 ANSWER 22 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1992:612978 CAPLUS

DOCUMENT NUMBER: 117:212978

ORIGINAL REFERENCE NO.: 117:36823a,36826a

TITLE: Process for preparing diketopiperazine derivatives

INVENTOR(S): Toshihisa, Kato; Tadashi, Takemoto

PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan

SOURCE: Eur. Pat. Appl., 5 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

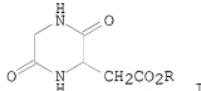
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 493812	A1	19920708	EP 1991-122307	19911227
R: BE, DE, FR, GB, NL				
JP 04234374	A	19920824	JP 1990-418592	19901227

PRIORITY APPLN. INFO.:

CASREACT 117:212978; MARPAT 117:212978

OTHER SOURCE(S):

GI



AB Diketopiperazines I (R = C1-6-alkyl) were prepared by treating (chloroacetyl)aspartic acid with NH₃, esterifying the resulting H-Gly-Asp-OH with an alkanol, and cyclizing the resulting diester neutral or weakly basic water or in an alkanol-water solvent mixture. Thus, L-aspartic acid was acylated with ClCH₂COCl in aqueous NaOH to give 62% ClCH₂CO-L-Asp-OH, which was treated NH₃ in water to H-Gly-Asp-OH. The latter was esterified with MeOH containing HCl to give 87% H-Gly-Asp(OMe)-OMe, which was cyclized in water at pH 7.0 at 60° for 3 h to give 72% I (R = Me).

AN 1992:612978 CAPLUS

DN 117:212978

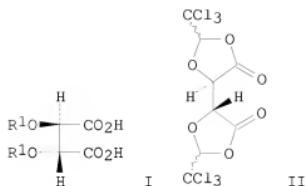
OREF 117:36823a, 36826a

IT 4685-12-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and esterification of, with methanol)

L6 ANSWER 23 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1992:147458 CAPLUS
DOCUMENT NUMBER: 116:147458
ORIGINAL REFERENCE NO.: 116:24825a,24828a
TITLE: Analysis of keto acids as their methyl esters of
2,4-dinitrophenylhydrazone derivatives by gas
chromatography and gas chromatography-mass
spectrometry
AUTHOR(S): Navarro-Gonzalez, Rafael; Negron-Mendoza, Alicia;
Albarran, Guadalupe
CORPORATE SOURCE: Inst. Cienc. Nucl., UNAM, Mexico City, 04510, Mex.
SOURCE: Journal of Chromatography (1991), 587(2), 247-54
CODEN: JOCRAM; ISSN: 0021-9673
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 116:147458
AB The anal. of keto acids via reaction with 2,4-dinitrophenylhydrazine (DNP)
and esterification with methanol-hydrochloric acid by gas
chromatog. and gas chromatog.-mass spectrometry is described. The derivs.
formed (DNPH) are moderately stable and are easy to analyze. The separation of
eighteen biol. important keto acids is described. The utility of the
method in electron impact mass spectra of DNPH derivs. is presented.
AN 1992:147458 CAPLUS
DN 116:147458
OREF 116:24825a,24828a
AB The anal. of keto acids via reaction with 2,4-dinitrophenylhydrazine (DNP)
and esterification with methanol-hydrochloric acid by gas
chromatog. and gas chromatog.-mass spectrometry is described. The derivs.
formed (DNPH) are moderately stable and are easy to analyze. The separation of
eighteen biol. important keto acids is described. The utility of the
method in electron impact mass spectra of DNPH derivs. is presented.

L6 ANSWER 24 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1989:632040 CAPLUS
DOCUMENT NUMBER: 111:232040
ORIGINAL REFERENCE NO.: 111:38537a,38540a
TITLE: (R,R)-,O,O'-(2,2-Dichlorovinyl)tartaric acid: an
easily synthesized optically pure vinylether. A new
synthesis of (R,R)-O,O'-diethyltartaric acid
AUTHOR(S): Uray, Georg; Lindner, Wolfgang; Reiter, Franz
CORPORATE SOURCE: Inst. Org. Chem., Karl-Franzens Univ., Graz, A-8010,
Austria
SOURCE: Synthesis (1989), (3), 194-6
CODEN: SYNTBF; ISSN: 0039-7881
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 111:232040
GI



AB (R,R)-Tartaric acid diethers I ($R_1 = CH:CCl_2$, Et) were prepared (R,R)-Tartaric acid reacted with CCl_3CHO and H_2SO_4 to give bis-dioxolanone II, and the latter was treated with Zn in HOAc to give I ($R_1 = CH:CCl_2$). The hydrogenation at I ($R_1 = CH:CCl_2$) over Pd gave I ($R_1 = Et$).

AN 1989:632040 CAPLUS

DN 111:232040

OREF 111:38537a,38540a

IT 123848-36-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and ring cleavage reactions of, with methanol and ammonia)

L6 ANSWER 25 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1989:114749 CAPLUS

DOCUMENT NUMBER: 110:114749

ORIGINAL REFERENCE NO.: 110:18921a,18924a

TITLE: Stability and stereochemistry in the decomposition of pentasubstituted 1-pyrazolines controlled by interactions between bulky vicinal substituents

AUTHOR(S): Nakano, Yoshihiko; Hamaguchi, Masashi; Nagai, Toshikazu

CORPORATE SOURCE: Coll. Gen. Educ., Osaka Univ., Osaka, 560, Japan

SOURCE: Journal of Organic Chemistry (1989), 54(5), 1135-44

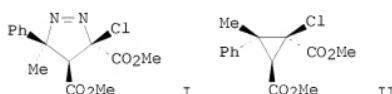
CODEN: JOCEAH; ISSN: 0022-3263

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 110:114749

GI

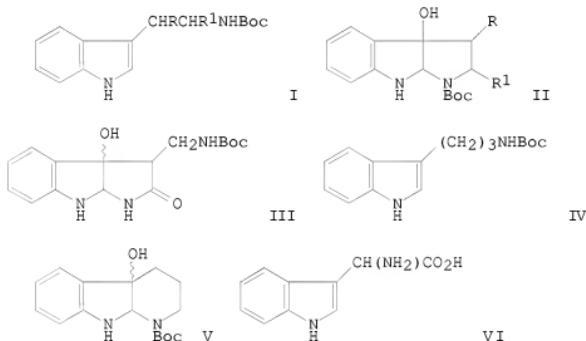


AB 1,2-Diacyl-1-chloroethylenes (e.g., (Z)- and (E)- $MeO_2CCCl:CHCO_2Me$) reacted with disubstituted diazomethanes (e.g., $Me_2C:N_2$, $MeCPh:N_2$, $Ph_2C:N_2$) to give pyrazolines and cyclopropanes (e.g., I and II, resp.). The thermal decomposition of the isolated pyrazolines was carried out. The thermal stability of the pyrazolines increased with the variation of the substituents at C5 in the order biphenylene < Ph, Ph < Ph, Me < Me, Me, while pyrazolines bearing bulky vicinal substituents at C3, C4, and C5 in the cis configuration were substantially more stable than other isomers. This abnormal stability is explained by the reasonable expectation that bulky C4 substituents partly inhibit conformations of the conjugated substituents at C3 or C5 favorable for the decomposition, which increases the

activation energy. Although most of the thermolyses of the pyrazolines to cyclopropanes gave products with the same configuration as the starting materials, some pyrazolines bearing bulky vicinal cis groups gave mixts. of stereoisomeric cyclopropanes. The thermolysis mechanism is discussed.

AN 1989:114749 CAPLUS
 DN 110:114749
 OREF 110:18921a,18924a
 IT 118658-08-5P 118658-10-9P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and esterification of, with methanol)

L6 ANSWER 26 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1988:6374 CAPLUS
 DOCUMENT NUMBER: 108:6374
 ORIGINAL REFERENCE NO.: 108:1215a,1218a
 TITLE: Hexahydropyrroloindoless. Attempts to synthesize
 2-indolyl thio ethers
 AUTHOR(S): Droste, Holger; Wieland, Theodor
 CORPORATE SOURCE: Max-Planck-Inst., Med. Forsch., Heidelberg, D-6900,
 Fed. Rep. Ger.
 SOURCE: Liebigs Annalen der Chemie (1987), (11), 901-10
 DOCUMENT TYPE: Journal
 LANGUAGE: German
 OTHER SOURCE(S): CODEN: LACHDL; ISSN: 0170-2041
 CASREACT 108:6374
 GI

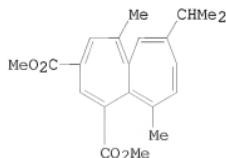
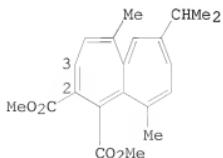


AB The sensitized photochem. oxidation of tryptamines I (Boc = Me₃CO₂C; R = CN, CO₂H, CO₂Me, R1 = H; R = H, R1 = CO₂H, H) gave hexahydropyrroloindoless II. The photochem. oxidation of I (R = CONH₂, R1 = H) gave ketone III, whereas homotryptamine IV gave hexahydropyridoindole V. No azetidine formation from indolylglycine VI was observed. Attempts to synthesize title ethers from tryptamines and sulphenyl chlorides of cysteine derivs. failed.

AN 1988:6374 CAPLUS
 DN 108:6374
 OREF 108:1215a,1218a
 IT 10184-94-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and esterification with methanol)

L6 ANSWER 27 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1986:590448 CAPLUS
 DOCUMENT NUMBER: 105:190448
 ORIGINAL REFERENCE NO.: 105:30727a,30730a
 TITLE: Chemistry of 2-bromo-3-(trichloromethyl)succinic anhydride and dimethyl ester: preparation of various halogenated succinic, maleic, fumaric and malic acid derivatives
 AUTHOR(S): Nedelec, J. Y.; Blanchet, D.; Lefort, D.; Biellmann, J. F.
 CORPORATE SOURCE: Lab. Electrochim., Catal. Synth. Org., CNRS, Thiais, 94320, Fr.
 SOURCE: Tetrahedron (1985), 41(20), 4503-8
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 105:190448
 AB Various reactions of title adducts of BrCCl₃ with maleic anhydride and di-Me maleate or fumarate were studied. Thus, treatment of erythro-MeO₂CCHBrC(Cl)₃CO₂Me with AcONa in AcOH at room temperature for 24 h afforded di-Me 2-(trichloromethyl)maleate, along with the corresponding fumarate and MeO₂CCHBrC(CO₂Me):CCl₂.
 AN 1986:590448 CAPLUS
 DN 105:190448
 OREF 105:30727a,30730a
 IT 105048-49-5P 105048-50-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and esterification with methanol)

L6 ANSWER 28 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1986:442061 CAPLUS
 DOCUMENT NUMBER: 105:42061
 ORIGINAL REFERENCE NO.: 105:6957a,6960a
 TITLE: σ -Skeletal rearrangement of heptalenes: thermal transformation of heptalene-1,2-dicarboxylates into heptalene-1,3-dicarboxylates
 AUTHOR(S): Bernhard, Werner; Bruegger, Paul; Daly, John J.; Englert, Gerhard; Schoenholzer, Peter; Hansen, Hans Juergen
 CORPORATE SOURCE: Cent. Res. Units, F. Hoffmann-La Roche and Co., Ltd., Basel, CH-4002, Switz.
 SOURCE: Helvetica Chimica Acta (1985), 68(4), 1010-24
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 105:42061
 GI



AB Di-Me 1,2-heptalenedicarboxylates rearrange to 1,3-dicarboxylates above 200°. Labeling expts. indicate that the rearrangement of I occurs by interchange of C-2 and C-3 in the heptalene skeleton. Thus, the I → II process is the 1st thermal σ-skeletal rearrangement of heptalenes. X-ray analyses of I and II are discussed.

AN 1986:442061 CAPLUS

DN 105:42061

OREF 105:6957a,6960a

IT 142-45-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with labeled methanol)

L6 ANSWER 29 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1986:206693 CAPLUS

DOCUMENT NUMBER: 104:206693

ORIGINAL REFERENCE NO.: 104:32741a,32744a

TITLE: Use of bromine in methanol - preparation of methyl esters

AUTHOR(S): Vairamani, M.; Rao, G. K. Viswanadha

CORPORATE SOURCE: Mass Spectrom. Div., Reg. Res. Lab., Hyderabad, 500 007, India

SOURCE: Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry (1985), 24B(6), 691

CODEN: IJSBDB; ISSN: 0376-4699

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 104:206693

AB Methyl esters are prepared in 92-98% yield and 95-98% purity when RCO₂H [R = PhCH₂, Ph, HO₂CH₂CH₂, Me(CH₂)_n; n = 10, 12, 14] with Br₂ in MeOH. The reaction is light and/or HBr catalyzed. An acid catalyzed mechanism for the reaction is indicated.

AN 1986:206693 CAPLUS

DN 104:206693

OREF 104:32741a,32744a

TI Use of bromine in methanol - preparation of methyl esters

ST methanol esterification bromine

IT Esterification

(of methanol-bromine as reagent for)

IT 7726-95-6, uses and miscellaneous

RL: CAT (Catalyst use); USES (Uses)
(catalyst, for esterification of carboxylic acids with methanol)

IT 93-58-3P 101-41-7P 106-65-0P 111-82-0P 112-39-0P 124-10-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, bromine-methanol reagent for)

L6 ANSWER 30 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1985:470927 CAPLUS

DOCUMENT NUMBER: 103:70927

ORIGINAL REFERENCE NO.: 103:11405a,11408a

TITLE: Synthesis of dialkyl esters of succinic acid

AUTHOR(S): Amirkhanyan, M. M.; Elanyan, M. F.

CORPORATE SOURCE: USSR

SOURCE: Trudy IREA (1984), 46, 7-10

CODEN: TTKKAM; ISSN: 0371-876X

DOCUMENT TYPE: Journal

LANGUAGE: Russian

OTHER SOURCE(S): CASREACT 103:70927

AB Direct esterification of HO₂CH₂CH₂CO₂H (I) with 4 equiv MeOH and EtOH in 50 mL C₆H₆ containing 40 g KU-2 + 8 catalyst per mol I at 110° for 10 h and 140° for 6 h, resp., gave 83.2% di-Me and 96.5% di-Et

succinate, resp.
 AN 1985:470927 CAPLUS
 DN 103:70927
 OREF 103:11405a,11408a
 IT Process optimization
 (for esterification of succinic acid with methanol and
 ethanol)
 IT Esterification
 (of succinic acid with methanol and ethanol, optimization of)

 L6 ANSWER 31 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1983:452585 CAPLUS
 DOCUMENT NUMBER: 99:52585
 ORIGINAL REFERENCE NO.: 99:8211a,8212a
 TITLE: Reactions of cyclic anhydrides. Part IX. Facile
 esterification of carboxylic acids with
 organophosphorus reagents. Novel application of
 alkylphosphoric esters (APE)
 AUTHOR(S): Balasubramaniyan, V.; Bhatia, V. G.; Wagh, S. B.
 CORPORATE SOURCE: Sci. Res. Cent., H.P.T. Arts and R.Y.K. Sci. Coll.,
 Nasik, 422 005, India
 SOURCE: Tetrahedron (1983), 39(9), 1475-85
 DOCUMENT TYPE: CODEN: TETRAB; ISSN: 0040-4020
 LANGUAGE: Journal
 OTHER SOURCE(S): English
 AB The APE reagent, prepared from P4010 and excess alkanol, was used for the
 esterification of carboxylic acids (.aprx.50), including maleanilic,
 fumaranilic, and succinanilic acids.
 AN 1983:452585 CAPLUS
 DN 99:52585
 OREF 99:8211a,8212a
 IT 16752-60-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (reagent from methanol and, for esterification)

=> select an 16 1-31
 E1 THROUGH E62 ASSIGNED

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L9      387445 METHANOL  
  
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L10      1 METHANOL/CN  
  
=> d rn
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L10  ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2009 ACS on STN  
RN  67-56-1  REGISTRY
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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE FILE      TOTAL  
CA SUBSCRIBER PRICE          ENTRY        SESSION  
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L13 29 L12 AND L7

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NUMBER OF REACTIONS IN SPATH 1
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L13 ANSWER 2 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS 1
NUMBER OF REACTIONS IN PATH 1
NUMBER OF REACTIONS IN SPATH 1
FIELD COUNT
RX(1) 3
AN 1

L13 ANSWER 3 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS 2
NUMBER OF REACTIONS IN PATH 2
NUMBER OF REACTIONS IN SPATH 2
FIELD COUNT
RX(1) 3
RX(2) 3
AN 1

L13 ANSWER 4 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS 1
NUMBER OF REACTIONS IN PATH 1
NUMBER OF REACTIONS IN SPATH 1
FIELD COUNT
RX(8) 3
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L13 ANSWER 5 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS 1
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FIELD COUNT
RX(14) 3
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L13 ANSWER 6 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS 1
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NUMBER OF REACTIONS IN SPATH 1
FIELD COUNT
RX(1) 3
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L13 ANSWER 7 OF 29 CASREACT COPYRIGHT 2009 ACS on STN

NUMBER OF HIT REACTIONS	1
NUMBER OF REACTIONS IN PATH	1
NUMBER OF REACTIONS IN SPATH	1
FIELD	COUNT
RX(1)	3
AN	1

L13 ANSWER 8 OF 29 CASREACT COPYRIGHT 2009 ACS on STN

NUMBER OF HIT REACTIONS	4
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NUMBER OF REACTIONS IN SPATH	4
FIELD	COUNT
RX(19)	3
RX(20)	3
RX(23)	3
RX(24)	3
AN	1

L13 ANSWER 9 OF 29 CASREACT COPYRIGHT 2009 ACS on STN

NUMBER OF HIT REACTIONS	1
NUMBER OF REACTIONS IN PATH	1
NUMBER OF REACTIONS IN SPATH	1
FIELD	COUNT
RX(1)	3
AN	1

L13 ANSWER 10 OF 29 CASREACT COPYRIGHT 2009 ACS on STN

NUMBER OF HIT REACTIONS	1
NUMBER OF REACTIONS IN PATH	1
NUMBER OF REACTIONS IN SPATH	1
FIELD	COUNT
RX(1)	3
AN	1

L13 ANSWER 11 OF 29 CASREACT COPYRIGHT 2009 ACS on STN

NUMBER OF HIT REACTIONS	2
NUMBER OF REACTIONS IN PATH	1
NUMBER OF REACTIONS IN SPATH	2
FIELD	COUNT
RX(2)	3
RX(3)	3
AN	1

L13 ANSWER 12 OF 29 CASREACT COPYRIGHT 2009 ACS on STN

NUMBER OF HIT REACTIONS	2
NUMBER OF REACTIONS IN PATH	1
NUMBER OF REACTIONS IN SPATH	2
FIELD	COUNT
RX(2)	3
RX(9)	3
AN	1

L13 ANSWER 13 OF 29 CASREACT COPYRIGHT 2009 ACS on STN

NUMBER OF HIT REACTIONS	2
NUMBER OF REACTIONS IN PATH	1
NUMBER OF REACTIONS IN SPATH	2
FIELD	COUNT

RX(3)	4
RX(5)	4
AN	1

L13 ANSWER 14 OF 29 CASREACT	COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS	1
NUMBER OF REACTIONS IN PATH	1
NUMBER OF REACTIONS IN SPATH	1
FIELD	COUNT
RX(1)	3
AN	1

L13 ANSWER 15 OF 29 CASREACT	COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS	2
NUMBER OF REACTIONS IN PATH	2
NUMBER OF REACTIONS IN SPATH	2
FIELD	COUNT
RX(7)	4
RX(9)	4
AN	1

L13 ANSWER 16 OF 29 CASREACT	COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS	1
NUMBER OF REACTIONS IN PATH	1
NUMBER OF REACTIONS IN SPATH	1
FIELD	COUNT
RX(18)	4
AN	1

L13 ANSWER 17 OF 29 CASREACT	COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS	1
NUMBER OF REACTIONS IN PATH	1
NUMBER OF REACTIONS IN SPATH	1
FIELD	COUNT
RX(8)	4
AN	1

L13 ANSWER 18 OF 29 CASREACT	COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS	1
NUMBER OF REACTIONS IN PATH	1
NUMBER OF REACTIONS IN SPATH	1
FIELD	COUNT
RX(1)	3
AN	1

L13 ANSWER 19 OF 29 CASREACT	COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS	1
NUMBER OF REACTIONS IN PATH	1
NUMBER OF REACTIONS IN SPATH	1
FIELD	COUNT
RX(2)	3
AN	1

L13 ANSWER 20 OF 29 CASREACT	COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS	3
NUMBER OF REACTIONS IN PATH	1

NUMBER OF REACTIONS IN SPATH	2
FIELD	COUNT
RX(1)	4
RX(9)	4
RX(16)	4
AN	1

L13 ANSWER 21 OF 29 CASREACT	COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS	3
NUMBER OF REACTIONS IN PATH	1
NUMBER OF REACTIONS IN SPATH	2
FIELD	COUNT
RX(3)	4
RX(6)	4
RX(8)	4
AN	1

L13 ANSWER 22 OF 29 CASREACT	COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS	3
NUMBER OF REACTIONS IN PATH	2
NUMBER OF REACTIONS IN SPATH	3
FIELD	COUNT
RX(23)	3
RX(57)	3
RX(81)	3
AN	1

L13 ANSWER 23 OF 29 CASREACT	COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS	1
NUMBER OF REACTIONS IN PATH	1
NUMBER OF REACTIONS IN SPATH	1
FIELD	COUNT
RX(3)	4
AN	1

L13 ANSWER 24 OF 29 CASREACT	COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS	1
NUMBER OF REACTIONS IN PATH	1
NUMBER OF REACTIONS IN SPATH	1
FIELD	COUNT
RX(13)	4
AN	1

L13 ANSWER 25 OF 29 CASREACT	COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS	3
NUMBER OF REACTIONS IN PATH	2
NUMBER OF REACTIONS IN SPATH	3
FIELD	COUNT
RX(4)	3
RX(5)	3
RX(14)	3
AN	1

L13 ANSWER 26 OF 29 CASREACT	COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS	2
NUMBER OF REACTIONS IN PATH	1
NUMBER OF REACTIONS IN SPATH	2

FIELD	COUNT
RX(14)	3
RX(25)	3
AN	1

L13 ANSWER 27 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS 2
NUMBER OF REACTIONS IN PATH 2
NUMBER OF REACTIONS IN SPATH 2
FIELD COUNT
RX(3) 4
RX(9) 4
AN 1

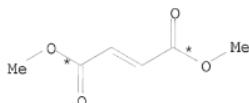
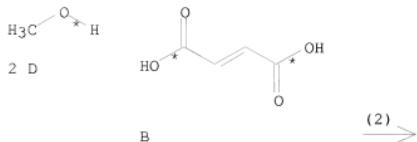
L13 ANSWER 28 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS 1
NUMBER OF REACTIONS IN PATH 1
NUMBER OF REACTIONS IN SPATH 1
FIELD COUNT
RX(1) 3
AN 1

L13 ANSWER 29 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
NUMBER OF HIT REACTIONS 4
NUMBER OF REACTIONS IN PATH 4
NUMBER OF REACTIONS IN SPATH 4
FIELD COUNT
RX(5) 3
RX(16) 3
RX(26) 3
RX(61) 3
AN 1

=> d ibib abs hit 1-29

L13 ANSWER 1 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 144:369644 CASREACT
TITLE: Catalytic synthesis of dimethyl fumarate with phosphotungstic acid
AUTHOR(S): Li, Yangshu; Yu, Bin
CORPORATE SOURCE: Science School, Nanjing University of Technology, Nanjing, 210009, Peop. Rep. China
SOURCE: Huagong Shikan (2004), 18(2), 57-58
CODEN: HUSHT; ISSN: 1002-154X
PUBLISHER: Huagong Shikan Zazhishe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB Phosphotungstic acid was used as an esterification catalyst for synthesizing di-Me fumarate (DMF), with maleic anhydride as the starting material and potassium bromate KBrO₃ as the isomerizing agent. This method has the advantages of requiring small amount of catalyst with high catalysis activity, resulting in shorter reaction time and high DMF yield (typically over 90%). The purification procedure of DMF is simple.

RX(2) OF 3 ...2 D + B ==> E



E
YIELD 90%

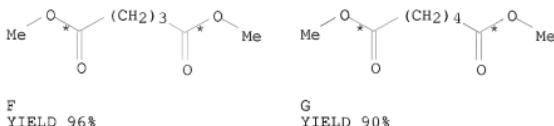
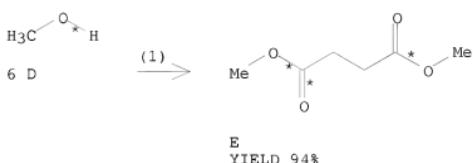
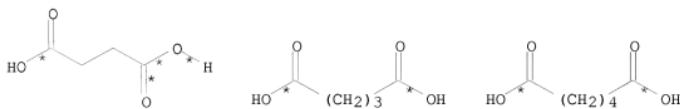
RX(2) RCT D 67-56-1, B 110-17-8
 PRO E 624-49-7
 CAT 1343-93-7 Tungstate(3-),
 tetracosa-μ-oxododecaoxo[μ12-(phosphato(3-)-
 KO:KO:KO:KO':KO":KO':K
 O'':KO":KO':KO":KO":KO":KO"]d
 odeca-, hydrogen (1:3)
 CON 7 hours, reflux
 NTE optimization study
 IN 144-2664-1 CSBPCST

L13 ANSWER 2 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 142:176440 CASREACT
TITLE: Recovering of dibasic acid ester from waste alkali
liquor of caprolactam preparation
INVENTOR(S): Zhou, Xianjun; Wang, Keshun; Wu, Chonghe; Liu,
Yaozhong; Jiang, Ping
PATENT ASSIGNEE(S): Zhongxinghua Industrial Co., Ltd., Peop. Rep. China
SOURCE: Faming Zhanli Shengqing Gongkai Shuomingshu, 19 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1401624	A	20030312	CN 2001-124260	20010820
CN 1172898	C	20041027		

PRIORITY APPLN. INFO.: CN 2001-124260 20010820
AB The recovering method comprises: (1) neutralizing the waste alkali liquor of caprolactam preparation to sep. aqueous phase and organic phase and oxidizing the organic substance in the organic phase with an oxidant selected from HNO₃, H₂O₂, HClO₄, or KMnO₄, (2) transferring the reaction product of the dibasic acid into a two-segments concentration unit to recover monobasic acid and HNO₃ in the

first segment and decompose the residual HNO₃ and nitro compound in the second segment to obtain crude C4-6 dibasic acid, (3) esterifying with Cl-4 alc. in the presence of catalyst, such as H2SO₄, H₃PO₄, HNO₃, sulfonic acid, and cationic exchange resin, and distilling



RX(1) RCT A 110-15-6, B 110-94-1, C 124-04-9, D 67-56-1
 PRO E 106-65-0, F 1119-40-0, G 627-93-0
 CON SUBSTAGE(1) 2 hours, 90 deg C
 SUBSTAGE(2) 4 hours, 120 deg C
 NTE yield depends on reaction conditions
 AN 142:176440 CASREACT

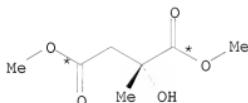
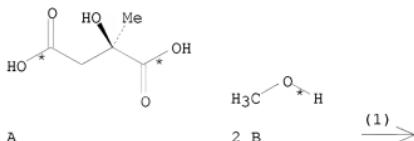
L13 ANSWER 3 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 141:259007 CASREACT
 TITLE: Synthesis of chiral phosphoantigens and their activity
 in $\gamma\delta$ T cell stimulation
 AUTHOR(S): Song, Yongcheng; Zhang, Yonghui; Wang, Hong; Raker,
 Amy; Sanders, John; Broderick, Erin; Clark, Allen;
 Morita, Craig; Oldfield, Eric
 CORPORATE SOURCE: Department of Chemistry, University of Illinois at
 Urbana-Champaign, Urbana, IL, 61801, USA
 SOURCE: Bioorganic & Medicinal Chemistry Letters (2004),
 14(17), 4471-4477

PUBLISHER: CODEN: BMCLE8; ISSN: 0960-894X
DOCUMENT TYPE: Elsevier B.V.
LANGUAGE: Journal English

AB $\gamma\delta$ T cells expressing Vy2V82 T cell receptors are activated by a broad range of phosphorus-containing small mols., termed phosphoantigens, and are of interest in the context of the chemotherapy of B cell malignancies. Here, we report the synthesis of four pairs of chiral phosphoantigens: the bromohydrins of isopentenyl diphosphate (PhosphostimTM), the epoxides of isopentenyl diphosphate (EIPP); and the corresponding bromohydrin and epoxide analogs of but-3-enyl diphosphate. The ability of each compound to stimulate human Vy2V82 T cells was determined by TNF- α release and cell proliferation. In these assays, the (R)-bromohydrin diphosphates, were, on average, about twice as active as the (S)-bromohydrin diphosphates. In contrast, the (S)-form of EIPP was about twice as active as (R)-EIPP. The activities of the epoxy but-3-enyl diphosphates were both very low. These results suggest that chiral phosphoantigens, as opposed to racemic mixts., may have utility in immunotherapy.

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

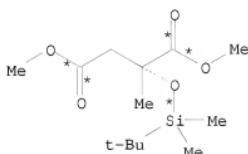
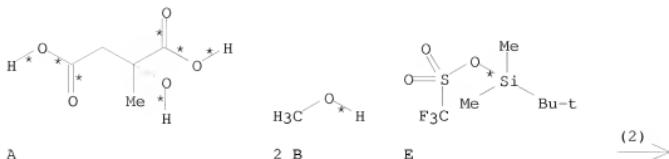
BX(1) OF 27 A + 2 B ==> C



C
YIELD 99%

RX(1) RCT A 6236-10-8, B 67-56-1
RGT D 7719-09-7 SOC12
PRO C 81426-68-8
NTE enantiomer prepared similarly

RX(2) OF 27 A + 2 B + E ==> E



F
YIELD 84%

RX(2) RCT A 6236-10-8, B 67-56-1

STAGE(1)
RCT D 7719-09-7 SOC12

STAGE(2)
RCT E 69739-34-0
RGТ G 121-44-8 Et3N

PRO F 756836-62-1
NTE enantiomer prepared similarly

AN 141:259007 CASREACT

L13 ANSWER 4 OF 29 CASREACT COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 141:191003 CASREACT
 TITLE: Reactions of 2H-3,1-benzoxazine -2,4(1H)-dione
 AUTHOR(S): Milea, M.; Csunderlik, C.; Fota, Daniela
 CORPORATE SOURCE: Department of Organic Chemistry, The University
 "POLITEHNICA" Timisoara, Timisoara, RO-1900, Rom.
 SOURCE: Buletinul Stiintific al Universitatii "Politehnica"
 din Timisoara Romania, Seria Chimie si Mediului
 (2000), 45(1), 163-167
 CODEN: BSIMFG; ISSN: 1224-6018

PUBLISHER: Universitatii "Politehnica" din Timisoara
 DOCUMENT TYPE: Journal
 LANGUAGE: English

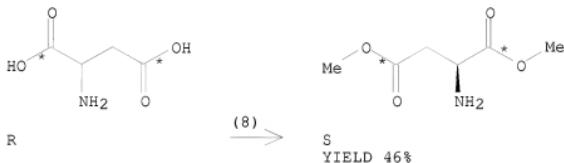
AB Reactions of isatoic anhydride (2H-3,1-benzoxazine -2,4(1H)-dione) with
 alcs. and phenols, both in the presence or absence of basic catalysts,
 have been studied, conditions have been established and the products
 characterized by physico-chemical methods. Also the reactions of isatoic
 anhydride with Me esters of α -amino acids were studied among the
 reactions of isatoic anhydride with nitrogen nucleophiles.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

RX(8) OF 18 2 N + R ==> S...



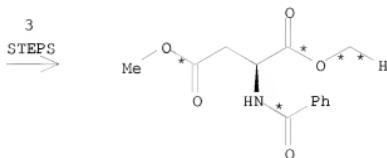
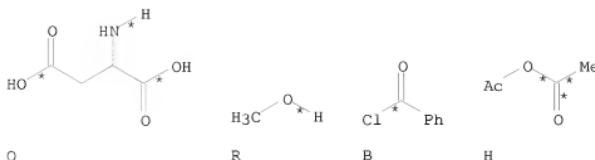
2 N



L13 ANSWER 5 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 141:54226 CASREACT
TITLE: Synthesis of 2-(5-methyl-2-phenyl-4-oxazolyl)ethanol
AUTHOR(S): Wang, Ya-Lou; Liu, Xing; Li, Jiang-Chuan
CORPORATE SOURCE: Department of Medicinal Chemistry, China
 Pharmaceutical University, Nanjing, 210009, Peop. Rep. China
SOURCE: Yingyong Huaxue (2004), 21(1), 104-106
 CODEN: YIHUED; ISSN: 1000-0518
PUBLISHER: Kexue Chubanshe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB 2-(5-Methyl-2-phenyl-4-oxazolyl)ethanol (I) was synthesized from L-aspartic acid via 5-step reactions; esterification, N-benzoylation, Dakin-West reaction, cyclization and reduction using LiAlH₄ in about 31.2% overall yield. Reacting L-aspartic acid with methanol in 0 °C gave 72.6% L-aspartic acid β-Me ester hydrochloride, which was benzoylated to give 82.0% N-benzoyl-L-aspartic acid β-Me ester (II). Dakin-West reaction of II gave 74.4% Me 3-benzamido-4-oxovalerate, which was cyclized in toluene with POC13 to give 81.8% Me 2-(5-methyl-2-phenyl-4-oxazolyl)acetate, the latter can easily convert to I by treatment with ether solution of LiAlH₄ in yield of 86%. All the compds. were characterized by 1H NMR, IR and elemental anal.

RX(14) OF 15 COMPOSED OF RX(5), RX(1), RX(2)

RX(14) Q + R + B + H ==> I



I
YIELD 74%

RX(5) RCT Q 56-84-8, R 67-56-1
 RGT S 7719-09-7 SOC12
 PRO A 16856-13-6
 CON 2.5 hours, 40 deg C

RX(1) RCT A 16856-13-6, B 98-88-4

STAGE(1)
 RGT D 121-44-8 Et3N
 SOL 75-09-2 CH2Cl2
 CON 1.5 hours, 0 deg C

STAGE(2)
 RGT E 7647-01-0 HCl
 SOL 7732-18-5 Water

PRO C 39741-26-9

RX(2) RCT C 39741-26-9, H 108-24-7

STAGE(1)
 SOL 110-86-1 Pyridine
 CON 3 hours, 90 deg C

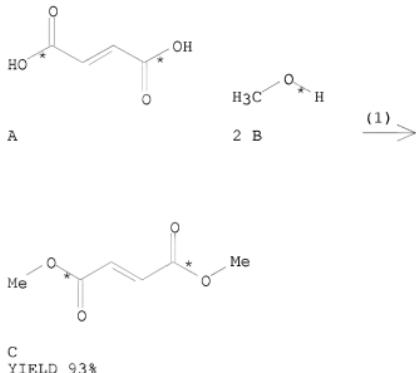
STAGE(2)
 RGT E 7647-01-0 HCl
 SOL 7732-18-5 Water
 CON pH 2

PRO I 86555-45-5

AN 141:54226 CASREACT

TITLE: Catalytic synthesis of dimethyl fumarate using solid-supported superacid catalyst
 AUTHOR(S): Zhao, Lifang; He, Zhusheng; Ma, Yuying
 CORPORATE SOURCE: Dept. Chem.+Chem. Eng., Baoji Coll. Arts + Sci., Baoji, 721007, Peop. Rep. China
 SOURCE: Baoji Wenli Xueyuan Xuebao, Ziran Kexueban (2002), 22(2), 138-140
 CODEN: BWZKFL
 PUBLISHER: Baoji Wenli Xueyuan Xuebao Bianjibu
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 AB The preparation of supported catalyst, TiO₂/La³⁺/SO₄²⁻ supported on mol. sieves, and its catalytic activity to esterification of fumarate were studied. The catalyst had fine catalytic activity. The optimum conditions of the esterification were decided by orthogonal expts. as follows: activation temperature of the catalyst was 500°, the amount of catalyst was 15% (based on the mass of fumaric acid), the mole ratio of alc. to acid was 6:1 and the reaction time was 5 h. Under the optimum reaction conditions, the yield of di-Me fumarate was up to 92.3%.

RX(1) OF 1 A + 2 B ==> C



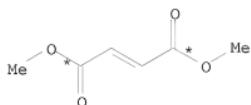
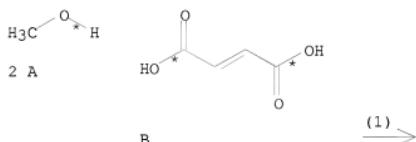
RX(1) RCT A 110-17-8, B 67-56-1
 PRO C 624-49-7
 CAT 7664-93-9 H₂SO₄, 10099-60-2 Sulfuric acid, lanthanum(3+) salt (3:2)
 CON 3 hours, reflux
 NTE TiO₂/La/SO₄ supported mol. sieves used as catalyst, optimization study
 AN 139:6591 CASREACT

L13 ANSWER 7 OF 29 CASREACT COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 138:337689 CASREACT
 TITLE: Synthesis of dimethyl fumarate by heterogeneous supported heteropoly acid
 AUTHOR(S): Xu, Wenyuan; Peng, Daofeng; Xiong, Guoxuan; Zhu, Xiaping

CORPORATE SOURCE: Department of Applied Chemistry, East China Institute of Technology, Fuzhou, 344000, Peop. Rep. China
 SOURCE: Huaxue Shiji (2002), 24(6), 367-368
 PUBLISHER: Huagongbu Huaxue Shiji Xinsizhan
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 AB Synthesis of di-Me fumarate by esterification reaction of fumaric acid with methanol catalyzed by heterogeneous supported heteropoly acid PW12/C was studied in this paper. A careful study of the effects on the esterification reaction was done. Under these conditions, the yield of ester was about 91.6%.

RX(1) OF 1 2 A + B ==> C



C
 YIELD 91%

RX(1) RCT A 67-56-1, B 110-17-8
 PRO C 624-49-7
 CAT 1343-93-7 Tungstate(3-),
 tetracosa-μ-oxododecaoxo[μ12-[phosphato(3-)-
 K⁺:K⁺O⁻:K⁺O⁻:K⁺O⁻:K⁺O⁻]₁₂]d
 odeca-, hydrogen (1:3), 7440-44-0 Carbon
 CON 3 hours, reflux
 AN 138:337689 CASREACT

L13 ANSWER 8 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 138:271016 CASREACT
 TITLE: A simple, convenient and expeditious route to methyl esters of carboxylic acids by thionyl chloride-methanol
 AUTHOR(S): Chatterjee, Tapasi; Chattopadhyay, Subhagata
 CORPORATE SOURCE: Department of Chemistry, Jadavpur University, Kolkata,
 700 032, India
 SOURCE: Oriental Journal of Chemistry (2002), 18(2), 187-190
 PUBLISHER: Oriental Scientific Publishing Co.
 DOCUMENT TYPE: Journal

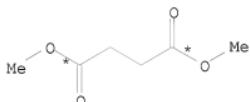
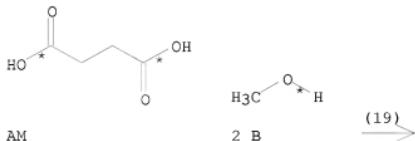
LANGUAGE:

English

AB A simple, convenient and expeditious preparation of 40-90% Me esters of carboxylic acids by thionyl chloride and MeOH was described. Among the 29 esters prepared were 90% 2-IC₆H₄CO₂Me, 87% 4-MeOC₆H₄CO₂Me and 86% Bz(CH₂)₂CO₂Me.

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

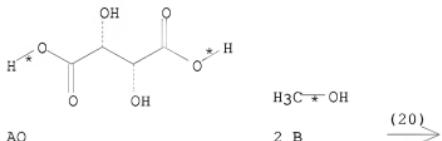
RX(19) OF 29 AM + 2 B ==> AN

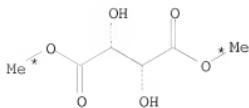


YIELD 53%

RX(19) RCT AM 110-15-6, B 67-56-1
RGT D 7719-09-7 SOC₁₂
PRO AN 106-65-0
CON 2 hours, reflux

RX(20) OF 29 AO + 2 B ==> AP

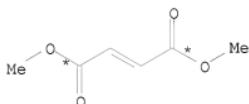
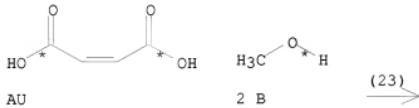




AP
YIELD 61%

RX(20) RCT AO 87-69-4, B 67-56-1
 RGT D 7719-09-7 SOC12
 PRO AP 608-68-4
 CON 2 hours, reflux

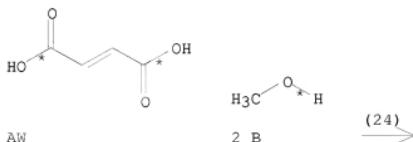
RX(23) OF 29 AU + 2 B ==> AV

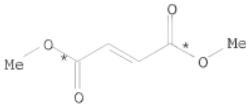


AV
YIELD 64%

RX(23) RCT AU 110-16-7, B 67-56-1
 RGT D 7719-09-7 SOC12
 PRO AV 624-49-7
 CON 2 hours, reflux

RX(24) OF 29 AW + 2 B ==> AV



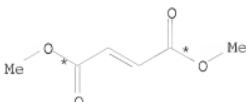
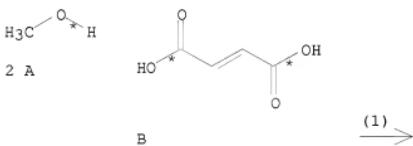


AV
YIELD 68%

RX(24) RCT AW 110-17-8, B 67-56-1
RGT D 7719-09-7 SOC12
PRO AV 624-49-7
CON 2 hours, reflux
AN 138:271016 CASREACT

L13 ANSWER 9 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 137:352688 CASREACT
TITLE: Catalytic reaction-distillation synthesis of dimethyl fumarate by fixed-carried heteropoly acid
AUTHOR(S): Ding, Bin; Guo, Xiangming
CORPORATE SOURCE: Jilin Institute of Chemical Technology, Jilin, 1320022, Peop. Rep. China
SOURCE: Dongbei Shida Xuebao, Ziran Kexueban (2001), 33(4), 61-65
CODEN: DSZKEE; ISSN: 1000-1832
PUBLISHER: Dongbei Shifan Daxue Xueshu Qikanshe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB A new synthesis technol. of di-Me fumarate was presented. Fumarate, methanol, and self-made fixed-carried heteropoly acid as catalyst were used. The reaction-distillation conditions were ratio of alc. and acid about 7:1; esterification temperature about 67-78°; and reaction time ≤6 h. The yield of product was up to 92%.

RX(1) OF 1 2 A + B ==> C

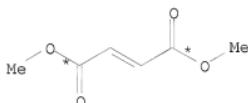
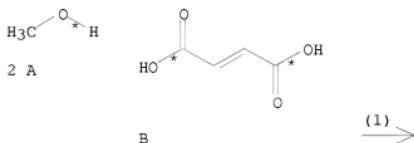


C
YIELD 92%

RX(1) RCT A 67-56-1, B 110-17-8
 PRO C 624-49-7
 CAT 1343-93-7D Tungstate(3-),
 tetracosa- μ -oxododecaoxo[μ 12-[phosphato(3-)-
 K O :K O :K O '':K O '':K O '':K
 O''':K O '':K O '':K O '':K O '']]d
 odeca-, hydrogen (1:3)
 AN 137:352688 CASREACT

L13 ANSWER 10 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 136:294520 CASREACT
 TITLE: Synthesis of dimethyl fumarate catalyzed by
 SO₄2-/TiO₂/La3+ rare earth solid superacid
 AUTHOR(S): Zhou, Jianwei
 CORPORATE SOURCE: Department of Chemical Engineering, Pingyuan
 University, Xinxiang, 453003, Peop. Rep. China
 SOURCE: Henan Huangong (2001), (5), 12-14
 CODEN: HEHUF3; ISSN: 1003-3467
 PUBLISHER: Henan sheng Shiyou Huaxue Gongye Keji Qingbao
 Zhongxinhan
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 AB Di-Me fumarate was synthesized from fumaric acid and methanol with
 SO₄2-/TiO₂/La3+ rare earth solid superacid as catalyst in dichloromethane
 solvent. Optimum synthetic conditions were determined: molar ratio of fumaric
 acid to methanol 6:1, dosage of catalyst 1.0 g/0.1 mol fumaric acid, time
 4 h and solvent 25 mL. Yield of product reached above 94%.

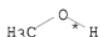
RX(1) OF 1 2 A + B ==> C



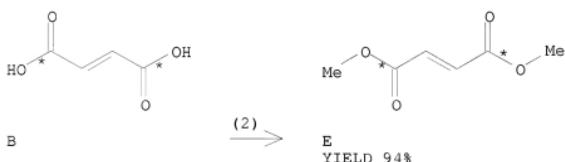
C
YIELD 94%

RX(1) RCT A 67-56-1, B 110-17-8
 PRO C 624-49-7
 CAT 14808-79-8 Sulfate, 13463-67-7 TiO₂, 215650-46-7 Sulfuric acid,
 lanthanum(3+) salt (3:1)
 SOL 75-09-2 CH₂C₂
 AN 136:294520 CASREACT

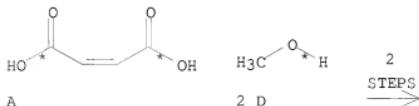
L13 ANSWER 11 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 1361279092 CASREACT
 TITLE: Synthesis of dimethyl fumarate from maleic acid
 AUTHOR(S): Cao, Kelin
 CORPORATE SOURCE: Shanxi Taiming Chemical Engineering Co., Ltd., Taigu,
 030800, Peop. Rep. China
 SOURCE: Huagong Jinzhan (2001), 20(4), 33-34, 39
 PUBLISHER: Huaxue Gongye Chubanshe
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 AB Title compound was prepared from maleic acid, isomerized fumaric acid in the presence of ammonium persulfate as catalyst, further esterification with methanol in the presence of phosphotungstic acid as catalyst, giving product with yield over 94%. The effects of catalysts and catalyst amount on the reactions were studied.

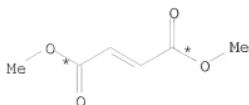


2 D



RX(2) RCT D 67-56-1, B 110-17-8
 PRO E 624-49-7
 CAT 12067-99-1 Tungsten hydroxide oxide phosphate





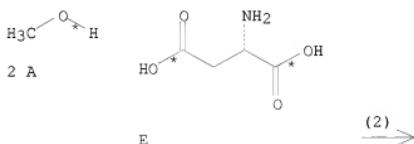
E
YIELD 94%

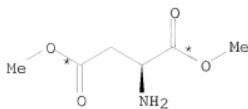
RX(1) RCT A 110-16-7
PRO B 110-17-8
CAT 7727-54-0 (NH4)2S2O8

RX(2) RCT D 67-56-1, B 110-17-8
PRO E 624-49-7
CAT 12067-99-1 Tungsten hydroxide oxide phosphate
AN 136:279092 CASREACT

L13 ANSWER 12 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 136:263409 CASREACT
TITLE: Synthesis of new chiral lipophilic macrocyclic oxo polyamines
AUTHOR(S): Yan, Qianshun; You, Jinsong; Xiang, Qingxiang; Yu, Xiaoqi; Xie, Rugang
CORPORATE SOURCE: Department of Chemistry, Sichuan University, Chengdu, 610064, Peop. Rep. China
SOURCE: Huaxue Yanjiu Yu Yingyong (2001), 13(2), 189-191
PUBLISHER: Huaxue Yanjiu Yu Yingyong Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB New chiral lipophilic macrocyclic oxo polyamines were synthesized from L-glutamic acid or L-aspartic acid by esterifying with methanol, acylating with dodecanoyl chloride in chloroform in the presence of K₂CO₃ to obtain di-Me N-dodecanoyl-L-glutamate or L-aspartate, and transacylating with diethylenetriamine or triethylenetetraamine in methanol under refluxing. Their structures were characterized by MS, 1H NMR, and elemental anal.

RX(2) OF 15 2 A + E ==> F...

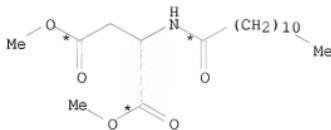
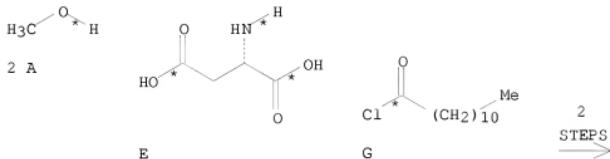




F
YIELD 68%

RX(2) RCT A 67-56-1, E 56-84-8
RGT D 7719-09-7 SOC12
PRO F 6384-18-5

RX(9) OF 15 COMPOSED OF RX(2), RX(4)
 RX(9) 2 A + E + G ==> K

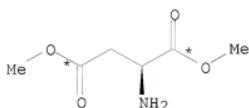
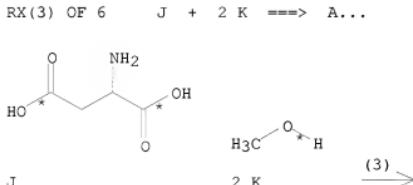


K
YIELD 66%

RX(2)	RCT	A 67-56-1, E 56-84-8
	RGT	D 7719-09-7 SOC12
	PRO	F 6384-18-5
RX(4)	RCT	G 112-16-3, F 6384-18-5
	RGT	I 584-08-7 K2C03
	PRO	K 258351-51-8
	SOL	67-66-3 CHC13
AN	136-263409 CASFACT	

L13 ANSWER 13 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 135:256190 CASREACT
TITLE: Lipase-catalyzed synthesis of RGD diamide in aqueous water-miscible organic solvents
AUTHOR(S): Zhang, L.-Q.; Zhang, Y.-D.; Xu, L.; Li, X.-L.; Yang, X.-c.; Xu, G.-L.; Wu, X.-X.; Gao, H.-Y.; Du, W.-B.

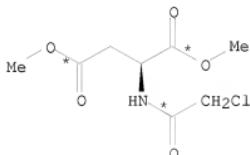
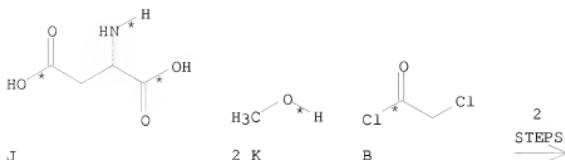
CORPORATE SOURCE: Zhang, X.-T.; Zhang, X.-Z.
 Key Laboratory of Molecular Enzymology and
 Engineering, Jilin University, Changchun, 130023,
 Peop. Rep. China
 SOURCE: Enzyme and Microbial Technology (2001), 29(2-3),
 129-135
 CODEN: EMTED2; ISSN: 0141-0229
 PUBLISHER: Elsevier Science Ireland Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB 1RGD tripeptide as the cellular adhesion factor was synthesized by a combination of chemical and enzymic methods in this study. First of all, Gly-Asp diamide was synthesized by a novel chemical method in three steps including preparation of L-aspartic acid di-Me ester, chloroacetylation of L-aspartic acid di-Me ester and ammonolysis of chloroacetyl L-aspartic acid di-Me ester. Secondly, Porcine Pancreas Lipase (PPL) was used to catalyze the synthesis of Benzyl-Arg-Gly-Asp diamide in water-organic cosolvents systems. The reaction condition was optimized by examining the main factors affecting the yield of the tripeptide. The optimal reaction condition was set up as pH7.7, 15°C in 50% DMSO for 8 h with the maximum yield of 76.4%. It was also found that 50% DMSO was another alternative with the tripeptide yield of 71.7%.
 REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT



A

RX(3) RCT J 56-84-8, K 67-56-1
 RGT L 7647-01-0 HCl
 PRO A 6384-18-5
 SOL 67-56-1 MeOH

RX(5) OF 6 COMPOSED OF RX(3), RX(1)
 RX(5) J + 2 K + B ==> C



C

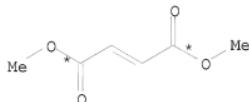
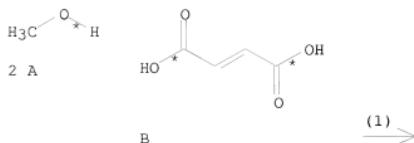
RX(3) RCT J 56-84-8, K 67-56-1
 RGT L 7647-01-0 HCl
 PRO A 6384-18-5
 SOL 67-56-1 MeOH

RX(1) RCT A 6384-18-5, B 79-04-9
 RGT D 1310-73-2 NaOH
 PRO C 76385-50-7
 SOL 67-66-3 CHCl₃, 7732-18-5 Water

AN 135:256190 CASREACT

L13 ANSWER 14 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 134:310893 CASREACT
 TITLE: Synthesis of dimethyl fumarate catalyzed by composite solid superacid SO42-/TiO2-Al2O3
 AUTHOR(S): Cheng, Yonghao
 CORPORATE SOURCE: Department of Chemistry, Hebei Normal University,
 Shijiazhuang, 050016, Peop. Rep. China
 SOURCE: Riyong Huaxue Gongye (2000), 30(5), 12-13
 CODEN: RHGOF8; ISSN: 1001-1803
 PUBLISHER: Qinggongye bu Kexue Jishu Qingbao Yanjiuso
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 AB Di-Me fumarate was synthesized from fumaric acid and methanol with composite solid superacid SO42-/TiO2-Al2O3 as catalyst. Optimum synthetic conditions were determined: methanol:fumaric acid 6:1, time 4 h, and dosage of catalyst 3 g. Yield of product reached 91.4%.

RX(1) OF 1 2 A + B ==> C



YIELD 91%

RX(1) RCT A 67-56-1, B 110-17-8
 PRO C 624-49-7
 CAT 14808-79-8 Sulfate, 13463-67-7 TiO₂, 1344-28-1 Al2O3
 AN 134:310893 CASREACT

L13 ANSWER 15 OF 29 CASREACT COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 133:296252 CASREACT

TITLE: A simple method for the preparation of monomethyl esters of dicarboxylic acids by selective esterification of the nonconjugated carboxyl group in the presence of an aromatic or conjugated carboxyl group

AUTHOR(S): Ram, Ram N.; Meher, Nabin Kumar

CORPORATE SOURCE: Department of Chemistry, Indian Institute of Technology, New Delhi, 110016, India

SOURCE: Journal of Chemical Research, Synopses (2000), (6), 282-283

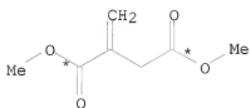
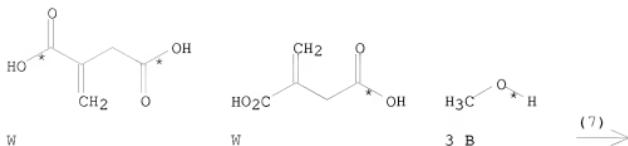
PUBLISHER: CODEN: JRPSCD; ISSN: 0308-2342
Science Reviews Ltd.

DOCUMENT TYPE: Journal
LANGUAGE: English

AB Various dicarboxylic acids were converted selectively into monomethyl esters in which the nonconjugated carboxyl group is selectively esterified in the present of an aromatic or conjugated carboxyl group at room temperature (.apprx.25-27°) in MeOH using a catalytic amount of SOCl₂.

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

RX(7) OF 9 2 W + 3 B ==> X + Y



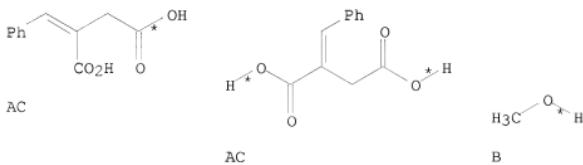
RX(7) RCT W 97-65-4, B 67-56-1

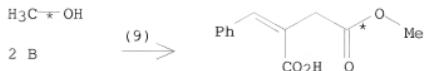
STAGE(1)
 CAT 7719-09-7 SOC12
 SOL 67-56-1 MeOH

STAGE(2)
 RGT E 7647-01-0 HCl
 SOL 7732-18-5 Water

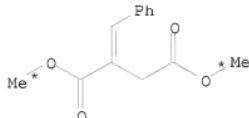
PRO X 7338-27-4, Y 617-52-7
 NTE chemoselective

RX(9) OF 9 2 AC + 3 B ==> AD + AE





AD
 YIELD 85%



AE
 YIELD 10%

RX(9) RCT AC 5653-88-3, B 67-56-1

STAGE(1)
 CAT 7719-09-7 SOC12
 SOL 67-56-1 MeOH

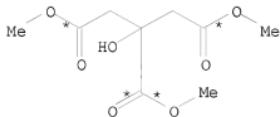
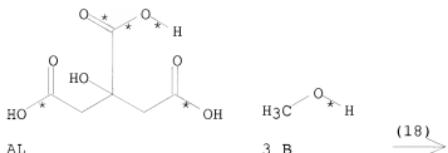
STAGE(2)
 RGT E 7647-01-0 HCl
 SOL 7732-18-5 Water

PRO AD 38418-34-7, AE 80459-39-8
 NTE chemoselective

AN 133:296252 CASREACT

L13 ANSWER 16 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 130:66049 CASREACT
 TITLE: A selective method for the preparation of aliphatic
 methyl esters in the presence of aromatic carboxylic
 acids
 AUTHOR(S): Rodriguez, A.; Nomen, M.; Spur, B. W.
 CORPORATE SOURCE: Department of Cell Biology, Univ. of Medicine and
 Dentistry of New Jersey, Stratford, NJ, 08084, USA
 SOURCE: Tetrahedron Letters (1998), 39(47), 8563-8566
 CODEN: TELEAY; ISSN: 0040-4039
 PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB 2,2-Dimethoxypropane, methanol and a catalytic amount of HCl selectively
 esterify aliphatic carboxylic acids in the presence of aromatic carboxylic
 acids
 at room temperature and in high yields.
 REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

RX(18) OF 22 AL + 3 B ==> AM

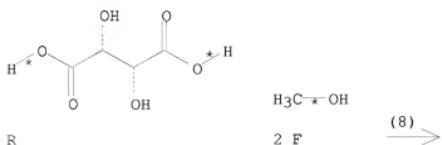


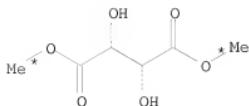
AM
YIELD 100%

RX(18) RCT AL 77-92-9, B 67-56-1
 RGT D 77-76-9 Me2C(OMe)2
 PRO AM 1587-20-8
 CAT 75-77-4 Me3SiCl
 SOL 67-56-1 MeOH
 NTE chemoselective, arom. acids are not esterified
 AN 130-66049 CASREFACT

L13 ANSWER 17 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 121:280006 CASREACT
 TITLE: A convenient and mild procedure for the preparation of hydroxy esters from lactones and hydroxy acids
 AUTHOR(S): Anand, R. C.; Selvapalam, N.
 CORPORATE SOURCE: Dep. Chem., Indian Inst. Technol., New Delhi, 110016, India
 SOURCE: Synthetic Communications (1994), 24(19), 2743-7
 DOCUMENT TYPE: CODEN: SYNCAC; ISSN: 0039-7911
 LANGUAGE: Journal
 English
 AB An alc. solution of lactones and hydroxy acids stored on Amberlyst-15 results in the formation of corresponding hydroxy esters in high yields.

RX(8) QF 8 R + 2 F ==> 0





S
YIELD 85%

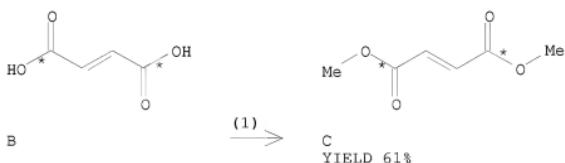
RX(8) RCT R 87-69-4, F 67-56-1
RGT D 9037-24-5 Amberlyst 15
PRO S 608-68-4
SOL 67-56-1 MeOH
AN 121:280006 CASREACT

L13 ANSWER 18 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 120:269626 CASREACT
TITLE: Catalytic synthesis of dimethyl fumarate with ferric chloride
AUTHOR(S): Yu, Shanxin; Lei, Huanwen
CORPORATE SOURCE: Dep. Chem., Hunan Norm. Univ., Changsha, 410081, Peop. Rep. China
SOURCE: Huaxue Shiji (1993), 15(6), 374, 376
CODEN: HUSHDR; ISSN: 0258-3283
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB Ferric chloride ($\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$) can be used as a catalyst for the esterification reaction of fumaric acid instead of sulfuric acid. The conditions in synthesis of di-Me fumarate catalyzed with $\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$ are described. The advantages of this method are: simple procedure, mild reaction conditions, non-corrosive, less pollution and purer product.

RX(1) OF 1 2 A + B ==> C



2 A



RX(1) RCT A 67-56-1, B 110-17-8
PRO C 624-49-7
CAT 7705-08-0 FeCl_3
AN 120:269626 CASREACT

L13 ANSWER 19 OF 29 CASREACT COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 119:226419 CASREACT

TITLE: Method for preparing amino acid esters involving (continuous) addition and distillation of alcohols

INVENTOR(S): Takemoto, Tadashi; Takeda, Hideo
PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan

SOURCE: Eur. Pat. Appl., 4 pp.
CODEN: EPXXDW

DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

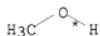
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 544205	A2	19930602	EP 1992-119898	19921123
EP 544205	A3	19930728		
EP 544205	B1	19950906		
R: BE, CH, DE, FR, GB, IT, LI, NL				
JP 05148199	A	19930615	JP 1991-314585	19911128
CA 2084012	A1	19930529	CA 1992-2084012	19921127
US 5424476	A	19950613	US 1994-194635	19940210
PRIORITY APPLN. INFO.:				
			JP 1991-314585	19911128
			US 1992-982123	19921125

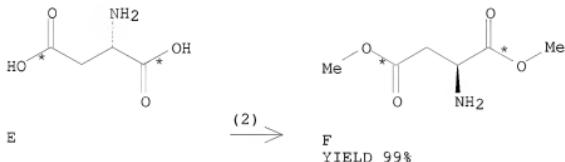
AB Amino acid esters were prepared by heating a mixture of an amino acid, an alc., and H₂SO₄ with simultaneous addition of liquid or gaseous alc. to the reaction mixture and distillation of the same. Thus, H-Phe-OH in MeOH containing cat.

H_2SO_4 was kept at 85° for 4 h with simultaneous addition and distillation of MeOH to give 98.6% H-Phe-OMe. Simple reflux of the above reactants gave a yield of only 83-2% product.

RX(2) OF 4 2 A + E ==> F



2 A



RX(2) RCT A 67-56-1, E 56-84-8

PRO F 6384-18-5

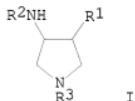
CAT 7664-93-9 H₂SO₄

NTE continuous addn. and distn. of methanol

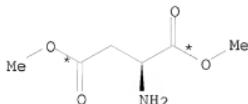
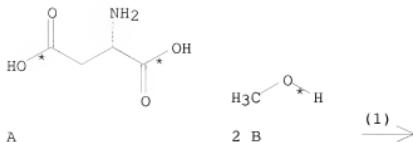
AN 119:226419 CASREACT

ACCESSION NUMBER: 119:180649 CASREACT
 TITLE: Preparation of pyrrolidine derivatives from amino acids.
 INVENTOR(S): Hirabayashi, Satoshi; Ike, Kazuo; Zanka, Atuhiko;
 Kawakami, Takeshi; Ichihara, Masaharu
 PATENT ASSIGNEE(S): Fujisawa Pharmaceutical Co., Ltd., Japan
 SOURCE: PCT Int. Appl., 20 pp.
 CODEN: PIXDZ
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9220652	A1	19921126	WO 1992-JP648	19920520
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE				
JP 04346971	A	19921202	JP 1991-219431	19910521
PRIORITY APPLN. INFO.:			JP 1991-219431	19910521
OTHER SOURCE(S):	MARPAT	119:180649		
GI				

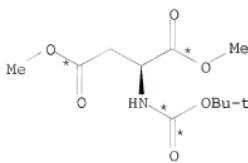
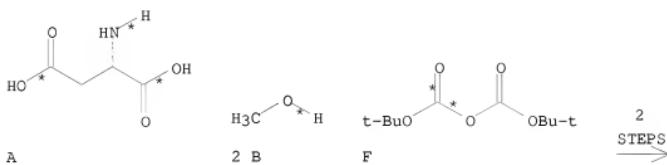


AB Reaction of R₂-NH-CH(CO₂-R₅)-CH₂-CO₂-R₄ (R₂, R₄, R₅ = protecting group) with R₁-X [R₁ = alkyl; X = leaving group] gives R₂-NH-CH(CO₂-R₅)-CH(R₁)-CO₂-R₄, whose reduction gives R₂-NH-CH(CH₂OH)-CH(R₁)-CH₂OH, whose condensation with H₂N-R₃ (R₃ = protecting group) gives pyrrolidine derivs. I, which are optionally deprotected. Di-Me (S)-aspartate hydrochloride (preparation given) in CH₂Cl₂ was mixed with a saturated aqueous solution of NaHCO₃, tert-di-Bu dicarbonate was added, and the resulting mixture was allowed to stand overnight to give di-Me (S)-N-tert-butoxycarbonylaspartate, which was treated with MeI in THF containing hexamethyldisilazane and BuLi at -40 to -30° for 2 h to give, after adjusting to pH 7-8 with 1N HCl, a 1:1 mixture of threo- and erythro-(2S)-N-(tert-butoxycarbonyl)-3-methylaspartic acid di-Me ester, which was reduced with NaBH₄ in THF-MeOH at 35-50° for 4 h to give a diastereomeric mixture of (2S)-N-(tert-butoxycarbonylamo)-3-methyl-1,4-butanediol, whose dimesylate ester was heated with benzylamine at 30-50° for 3 days to give 74% a diastereomeric mixture of 1-benzyl-3-tert-butoxycarbonylamo-4-methylpyrrolidine. (3S,4S)-1-benzyl-3-tert-butoxycarbonylamo-4-methylpyrrolidine in MeOH-H₂O containing HCO₂NH was hydrogenolyzed over Pd/C to give (3S,4S)-3-tert-butoxycarbonylamo-4-methylpyrrolidine, which in MeOH-EtOAc was treated with HCl in EtOAc at room temperature for 2 h and then at 35° for 2 h to give (3S,4S)-3-amino-4-methylpyrrolidine.
 REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT



RX(1) RCT A 56-84-8, B 67-56-1
 RGT D 7719-09-7 SOC12
 PRO C 32213-95-9
 SOL 67-56-1 MeOH, 68-12-2 DMF

RX(9) OF 36 COMPOSED OF RX(1), RX(2)
 RX(9) A + 2 B + F ==> G

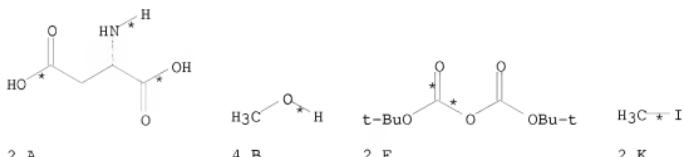


RX(1) RCT A 56-84-8, B 67-56-1

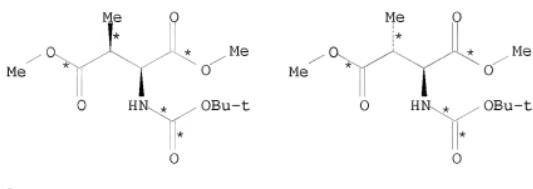
RGT D 7719-09-7 SOC12
 PRO C 32213-95-9
 SOL 67-56-1 MeOH, 68-12-2 DMF

 RX(2) RCT F 24424-99-5, C 32213-95-9
 RGT H 144-55-8 NaHCO3
 PRO G 55747-84-7
 SOL 75-09-2 CH2C12, 7732-18-5 Water

RX(16) OF 36 COMPOSED OF RX(1), RX(2), RX(3)
 RX(16) 2 A + 4 B + 2 F + 2 K ==> L +
 M



3
 STEPS
 →



RX(1) RCT A 56-84-8, B 67-56-1
 RGT D 7719-09-7 SOC12
 PRO C 32213-95-9
 SOL 67-56-1 MeOH, 68-12-2 DMF

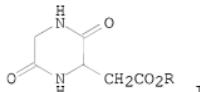
RX(2) RCT F 24424-99-5, C 32213-95-9
 RGT H 144-55-8 NaHCO3
 PRO G 55747-84-7
 SOL 75-09-2 CH2C12, 7732-18-5 Water

RX(3) RCT K 74-88-4, G 55747-84-7
 RGT N 999-97-3 (Me3Si)2NH, O 109-72-8 BuLi
 PRO L 149598-19-6, M 149598-20-9
 SOL 109-99-9 THF

AN 119:180649 CASREACT

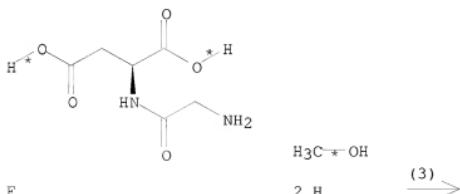
L13 ANSWER 21 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 117:212978 CASREACT
 TITLE: Process for preparing diketopiperazine derivatives
 INVENTOR(S): Toshihisa, Kato; Tadashi, Takemoto
 PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan
 SOURCE: Eur. Pat. Appl., 5 pp.
 CODEN: EPXWDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

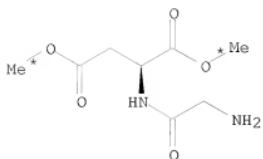
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 493812	A1	19920708	EP 1991-122307	19911227
R: BE, DE, FR, GB, NL				
JP 04234374	A	19920824	JP 1990-418592	19901227
PRIORITY APPLN. INFO.:			JP 1990-418592	19901227
OTHER SOURCE(S):	MARPAT	117:212978		
GI				



AB Diketopiperazines I ($R = C1\text{-}6\text{-alkyl}$) were prepared by treating (chloroacetyl)aspartic acid with NH_3 , esterifying the resulting H-Gly-Asp-OH with an alkanol, and cyclizing the resulting diester neutral or weakly basic water or in an alkanol-water solvent mixture. Thus, L-aspartic acid was acylated with $ClCH_2COCl$ in aqueous $NaOH$ to give 62% $ClCH_2CO-L\text{-Asp-OH}$, which was treated NH_3 in water to H-Gly-Asp-OH. The latter was esterified with $MeOH$ containing HCl to give 87% H-Gly-Asp(OMe)-OMe, which was cyclized in water at pH 7.0 at 60° for 3 h to give 72% I ($R = Me$).

RX(3) OF 10 ...F + 2 H ==> I...

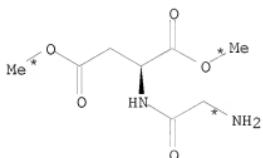
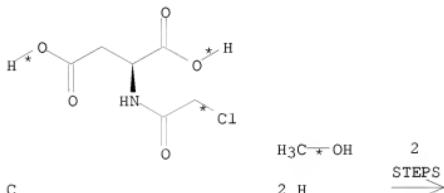




I
YIELD 87%

RX(3) RCT F 4685-12-5, H 67-56-1
RGT J 7647-01-0 HCl
PRO I 144168-11-6
SOL 67-56-1 MeOH

RX(6) OF 10 COMPOSED OF RX(2), RX(3)
RX(6) C + 2 H ==> I



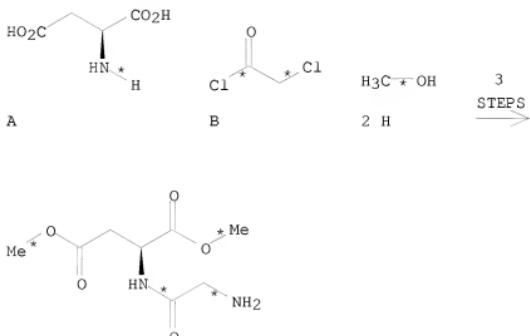
I
YIELD 87%

RX(2) RCT C 67036-33-3
RGT G 7664-41-7 NH3
PRO F 4685-12-5
SOL 7732-18-5 Water

RX(3) RCT F 4685-12-5, H 67-56-1
RGT J 7647-01-0 HCl
PRO I 144168-11-6

SOL 67-56-1 MeOH

RX(8) OF 10 COMPOSED OF RX(1), RX(2), RX(3)
RX(8) A + B + 2 H ==> I



I
YIELD 87%

RX(1) RCT A 56-84-8, B 79-04-9
RGT D 1310-73-2 NaOH
PRO C 67036-33-3
SOL 7732-18-5 Water

RX(2) RCT C 67036-33-3
RGT G 7664-41-7 NH3
PRO F 4685-12-5
SOL 7732-18-5 Water

RX(3) RCT F 4685-12-5, H 67-56-1
RGT J 7647-01-0 HCl
PRO I 144168-11-6
SOL 67-56-1 MeOH
AN 117:212978 CASREACT

L13 ANSWER 22 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 116:147458 CASREACT

TITLE: Analysis of keto acids as their methyl esters of
2,4-dinitrophenylhydrazone derivatives by gas
chromatography and gas chromatography-mass
spectrometry

AUTHOR(S): Navarro-Gonzalez, Rafael; Negron-Mendoza, Alicia;
Albaran, Guadalupe

CORPORATE SOURCE: Inst. Cienc. Nucl., UNAM, Mexico City, 04510, Mex.
SOURCE: Journal of Chromatography (1991), 587(2), 247-54

CODEN: JOCRAM; ISSN: 0021-9673

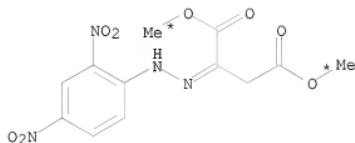
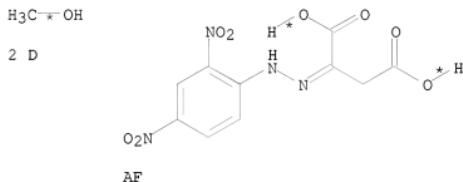
DOCUMENT TYPE: Journal

LANGUAGE: English

AB The anal. of keto acids via reaction with 2,4-dinitrophenylhydrazine (DNP)

and esterification with methanol-hydrochloric acid by gas chromatog. and gas chromatog.-mass spectrometry is described. The derivs. formed (DNPH) are moderately stable and are easy to analyze. The separation of eighteen biol. important keto acids is described. The utility of the method in electron impact mass spectra of DNPH derivs. is presented.

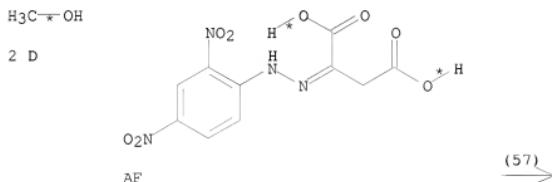
RX(23) OF 90 ...2 D + AF ==> AG...

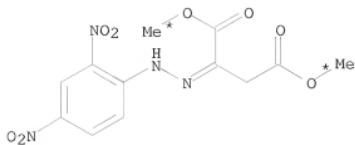


AG

RX(23)	RCT	D 67-56-1, AF 2891-14-7
	RGT	F 7647-01-0 HCl
	PRO	AG 6745-50-2
	SOL	7732-18-5 Water

RX(57) OF 90 2 D + AF ==> AG

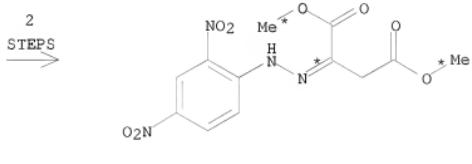
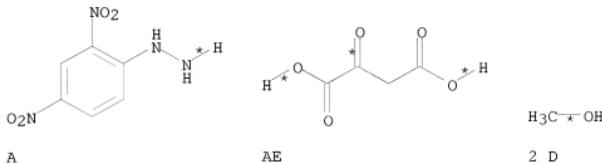




AG

RX(57) RCT D 67-56-1, AF 2891-14-7
 RGT F 7647-01-0 HCl
 PRO AG 6745-50-2
 SOL 7732-18-5 Water

RX(81) OF 90 COMPOSED OF RX(22), RX(23)
 RX(81) A + AE + 2 D ==> AG



RX(22) RCT A 119-26-6, AE 328-42-7
 PRO AF 2891-14-7

RX(23) RCT D 67-56-1, AF 2891-14-7
 RGT F 7647-01-0 HCl
 PRO AG 6745-50-2
 SOL 7732-18-5 Water

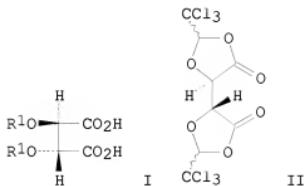
AN 116:147458 CASREACT

L13 ANSWER 23 OF 29 CASREACT COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 111:232040 CASREACT

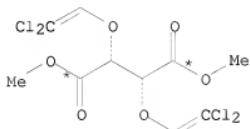
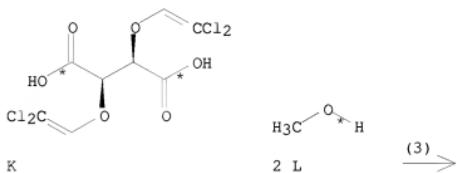
TITLE: (R,R)-,O,O'-(2,2-Dichlorovinyl)tartaric acid: an easily synthesized optically pure vinylether. A new synthesis of (R,R)-O,O'-diethyltartaric acid

AUTHOR(S): Uray, Georg; Lindner, Wolfgang; Reiter, Franz
 CORPORATE SOURCE: Inst. Org. Chem., Karl-Franzens Univ., Graz, A-8010,
 Austria
 SOURCE: Synthesis (1989), (3), 194-6
 DOCUMENT TYPE: CODEN: SYNTBF; ISSN: 0039-7881
 LANGUAGE: Journal
 English
 GI



AB (R,R)-Tartaric acid diethers I ($R_1 = CH:CCl_2$, Et) were prepared.
 (R,R)-Tartaric acid reacted with CCl_3CHO and H_2SO_4 to give bis-dioxolanone
 II, and the latter was treated with Zn in HOAc to give I ($R_1 = CH:CCl_2$).
 The hydrogenation at I ($R_1 = CH:CCl_2$) over Pd gave I ($R_1 = Et$).

RX(3) OF 18 K + 2 L ==> M

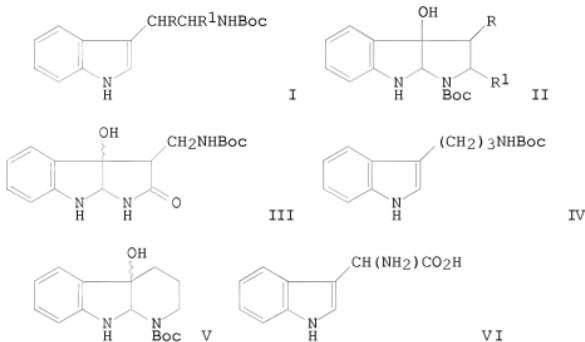


M
YIELD 68%

RX(3) RCT K 123848-33-9, L 67-56-1
 RGT N 104-15-4 TsOH
 PRO M 123848-34-0

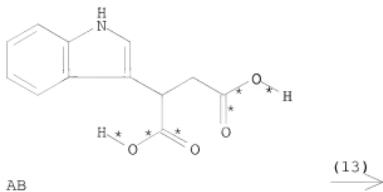
SOL 67-56-1 MeOH
AN 111:232040 CASREACT

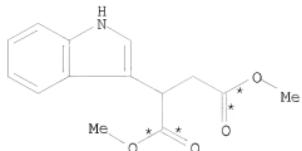
L13 ANSWER 24 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 108:6374 CASREACT
TITLE: Hexahydropyrroloindoles. Attempts to synthesize
2-indolyl thio ethers
AUTHOR(S): Droste, Holger; Wieland, Theodor
CORPORATE SOURCE: Max-Planck-Inst., Med. Forsch., Heidelberg, D-6900,
Fed. Rep. Ger.
SOURCE: Liebigs Annalen der Chemie (1987), (11), 901-10
DOCUMENT TYPE: CODEN: LACHDL; ISSN: 0170-2041
LANGUAGE: Journal
GI German



AB The sensitized photochem. oxidation of tryptamines I (Boc = Me₃CO₂C; R = CN, CO₂H, CO₂Me, R¹ = H; R = H, R¹ = CO₂H, H) gave hexahydropyrroloindoles II. The photochem. oxidation of I (R = CONH₂, R¹ = H) gave ketone III, whereas homotryptamine IV gave hexahydropyridoindole V. No azetidine formation from indolylglycine VI was observed. Attempts to synthesize title ethers from tryptamines and sulphenyl chlorides of cysteine derivs. failed.

RX(13) OF 317 ...AB ==> AC...





AC
YIELD 95%

RX(13) RCT AB 10184-94-8
 RGT AD 7719-09-7 SOC12, Q 67-56-1 MeOH, AE 110-86-1
 Pyridine, AF 1122-58-3 4-DMAP
 PRO AC 100711-44-2
 SOL 67-56-1 MeOH
 AN 108:6374 CASREACT

L13 ANSWER 25 OF 29 CASREACT COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 105:190448 CASREACT

TITLE: Chemistry of 2-bromo-3-(trichloromethyl)succinic anhydride and dimethyl ester: preparation of various halogenated succinic, maleic, fumaric and malic acid derivatives

AUTHOR(S): Nedelec, J. Y.; Blanchet, D.; Lefort, D.; Biellmann, J. F.

CORPORATE SOURCE: Lab. Electrochim., Catal. Synth. Org., CNRS, Thiais, 94320, Fr.

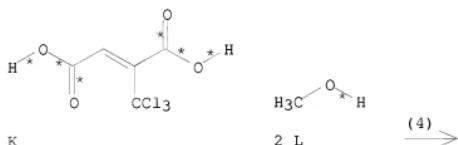
SOURCE: Tetrahedron (1985), 41(20), 4503-8
 CODEN: TETRAB; ISSN: 0040-4020

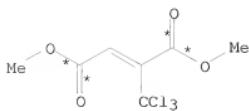
DOCUMENT TYPE: Journal

LANGUAGE: English

AB Various reactions of title adducts of BrCCl₃ with maleic anhydride and di-Me maleate or fumarate were studied. Thus, treatment of erythro-MeO₂CCHBrCH(CCl₃)CO₂Me with AcONa in AcOH at room temperature for 24 h afforded di-Me 2-(trichloromethyl)maleate, along with the corresponding fumarate and MeO₂CCHBrC(CO₂Me):CCl₂.

RX(4) OF 19 ...K + 2 L ==> B

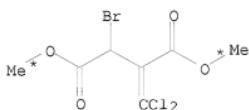
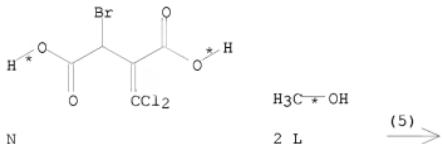




B

RX(4) RCT K 105048-49-5, L 67-56-1
 RGT M 7664-93-9 H2SO4
 PRO B 105048-44-0

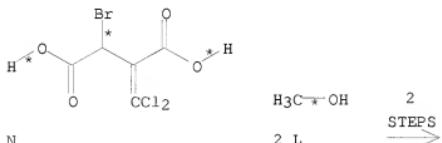
RX(5) OF 19 ...N + 2 L ==> F...

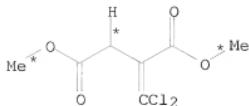


F

RX(5) RCT N 105048-50-8, L 67-56-1
 RGT M 7664-93-9 H2SO4
 PRO F 105048-45-1

RX(14) OF 19 COMPOSED OF RX(5), RX(7)
 RX(14) N + 2 L ==> R



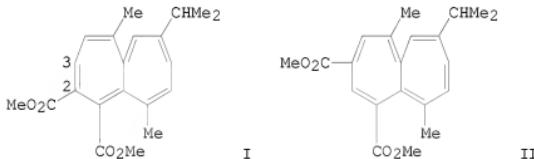


R

RX(5) RCT N 105048-50-8, L 67-56-1
 RGT M 7664-93-9 H2SO4
 PRO F 105048-45-1

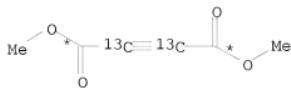
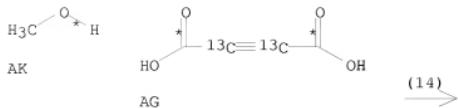
RX(7) RCT F 105048-45-1
 RGT S 75-77-4 Me3SiCl, T 7681-82-5 NaI
 PRO R 105048-47-3
 SOL 75-05-8 MeCN
 AN 105:190448 CASREACT

L13 ANSWER 26 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 105:42061 CASREACT
 TITLE: α -Skeletal rearrangement of heptalenes: thermal transformation of heptalene-1,2-dicarboxylates into heptalene-1,3-dicarboxylates
 AUTHOR(S): Bernhard, Werner; Bruegger, Paul; Daly, John J.; Englert, Gerhard; Schoenholzer, Peter; Hansen, Hans Juergen
 CORPORATE SOURCE: Cent. Res. Units, F. Hoffmann-La Roche and Co., Ltd., Basel, CH-4002, Switz.
 SOURCE: Helvetica Chimica Acta (1985), 68(4), 1010-24
 DOCUMENT TYPE: CODEN: HCACAV; ISSN: 0018-019X
 LANGUAGE: Journal
 English
 GI



AB Di-Me 1,2-heptaledenedicarboxylates rearrange to 1,3-dicarboxylates above 200°. Labeling expts. indicate that the rearrangement of I occurs by interchange of C-2 and C-3 in the heptalene skeleton. Thus, the I \rightarrow II process is the 1st thermal α -skeletal rearrangement of heptalenes. X-ray analyses of I and II are discussed.

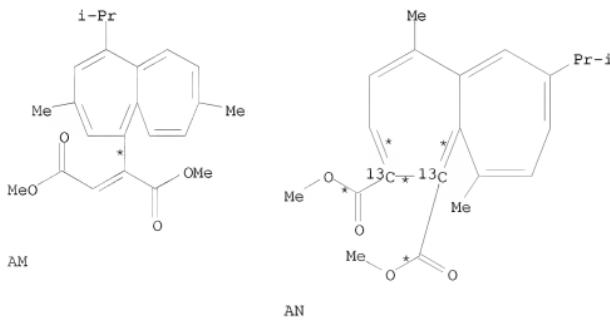
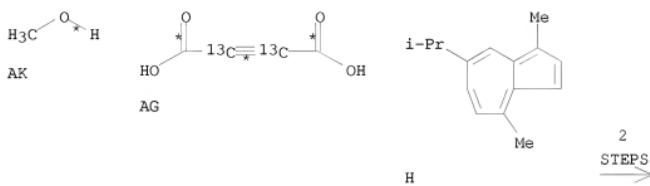
RX(14) OF 39 ...AK + AG ==> AL...

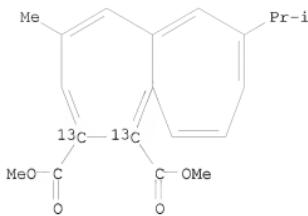


AL

RX(14) RCT AK 67-56-1, AG 101391-58-6
RGT T 7664-93-9 H2S04
PRO AL 79519-69-0
SOL 7732-18-5 Water, 71-43-2 Benzene

RX(25) OF 39 COMPOSED OF RX(14), RX(15)
RX(25) AK + AG + H ==> AM + AN + AO





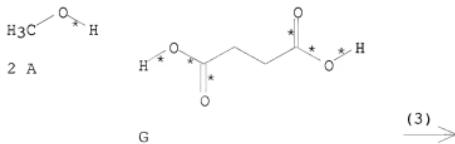
AO

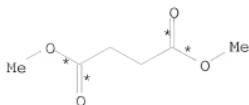
RX(14) RCT AK 67-56-1, AG 101391-58-6
 RGT T 7664-93-9 H2SO4
 PRO AL 79519-69-0
 SOL 7732-18-5 Water, 71-43-2 Benzene

RX(15) RCT H 489-84-9, AL 79519-69-0
 PRO AM 101391-59-7, AN 101391-60-0, AO 101391-61-1
 SOL 119-64-2 Tetralin
 AN 105:42061 CASREACT

L13 ANSWER 27 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 104:206693 CASREACT
 TITLE: Use of bromine in methanol - preparation of methyl esters
 AUTHOR(S): Vairamani, M.; Rao, G. K. Viswanadha
 CORPORATE SOURCE: Mass Spectrom. Div., Reg. Res. Lab., Hyderabad, 500 007, India
 SOURCE: Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry (1985), 24B(6), 691
 CODEN: IJSBDB; ISSN: 0376-4699
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Methyl esters are prepared in 92-98% yield and 95-98% purity when RCO2H [R = PhCH2, Ph, HO2CCH2CH2, Me(CH2)n; n = 10, 12, 14] with Br2 in MeOH. The reaction is light and/or HBr catalyzed. An acid catalyzed mechanism for the reaction is indicated.

RX(3) OF 9 2 A + G ==> H

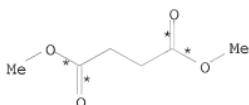
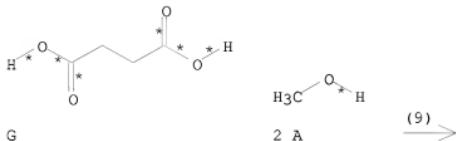




H

RX(3) RCT A 67-56-1, G 110-15-6
 RGT D 7726-95-6 Br2
 PRO H 106-65-0
 SOL 67-56-1 MeOH
 NTE best yield in light

RX(9) OF 9 G + 2 A ==> H

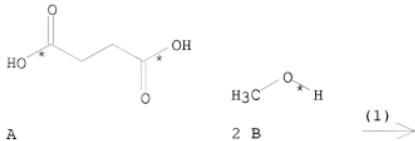


H

RX(9) RCT G 110-15-6, A 67-56-1
 RGT O 10035-10-6 HBr
 PRO H 106-65-0
 SOL 67-56-1 MeOH, 7732-18-5 Water
 AN 104:206693 CASREACT

L13 ANSWER 28 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
 ACCESSION NUMBER: 103:70927 CASREACT
 TITLE: Synthesis of dialkyl esters of succinic acid
 AUTHOR(S): Amirkhanyan, M. M.; Elanyan, M. F.
 CORPORATE SOURCE: USSR
 SOURCE: Trudy IREA (1984), 46, 7-10
 CODEN: TKRKAM; ISSN: 0371-876X
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 AB Direct esterification of HO2CH2CH2CO2H (I) with 4 equiv MeOH and EtOH in 50 mL C6H6 containing 40 g KU-2 + 8 catalyst per mol I at 110° for 10 h and 140° for 6 h, resp., gave 83.2% di-Me and 96.5% di-Et succinate, resp.

RX(1) OF 4 A + 2 B ==> C

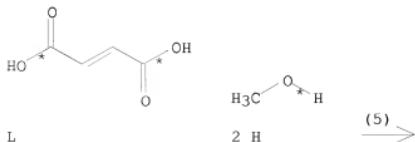


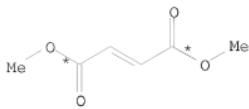
C
YIELD 83%

RX(1) RCT A 110-15-6, B 67-56-1
PRO C 106-65-0
AN 103:70927 CASREACT

L13 ANSWER 29 OF 29 CASREACT COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 99:52585 CASREACT
TITLE: Reactions of cyclic anhydrides. Part IX. Facile esterification of carboxylic acids with organophosphorus reagents. Novel application of alkylphosphoric esters (APE)
AUTHOR(S): Balasubramanyan, V.; Bhatia, V. G.; Wagh, S. B.
CORPORATE SOURCE: Sci. Res. Cent., H.P.T. Arts and R.Y.K. Sci. Coll., Nasik, 422 005, India
SOURCE: Tetrahedron (1983), 39(9), 1475-85
DOCUMENT TYPE: CODEN: TETRAB; ISSN: 0040-4020
LANGUAGE: Journal
English
AB The APE reagent, prepared from P4010 and excess alkanol, was used for the esterification of carboxylic acids (.apprx.50), including maleanilic, fumaranilic, and succinanilic acids.

RX(5) OF 73 L + 2 H ==> M

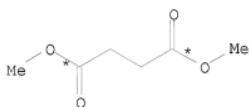
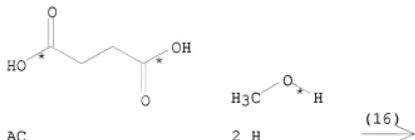




M
YIELD 72%

RX(5) RCT L 6915-18-0, H 67-56-1
RGD D 16752-60-6 P4O10
PRO M 23055-10-9

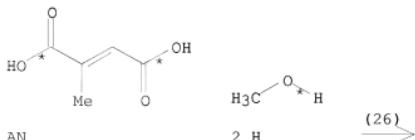
RX(16) OF 73 AC + 2 H ==> AD

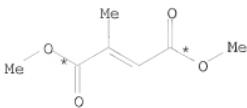


AD
YIELD 60%

RX(16) RCT AC 110-15-6, H 67-56-1
RGD D 16752-60-6 P4O10
PRO AD 106-65-0

RX(26) OF 73 AN + 2 H ==> AS

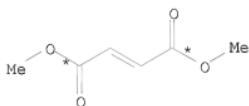
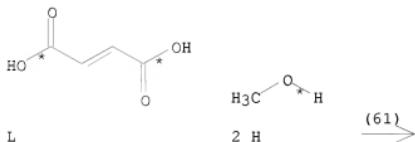




AS
YIELD 68%

RX(26) RCT AN 7407-59-2, H 67-56-1
RGT D 16752-60-6 P4O10
PRO AS 84569-14-2

RX(61) OF 73 L + 2 H ==> M



M
YIELD 73%

RX(61) RCT L 6915-18-0, H 67-56-1
RGT D 16752-60-6 P4O10
PRO M 23055-10-9
AN 99:52585 CASREACT